## RESPONSE TO COMMENTS

Placer County Department of Facility Services
Sewer Maintenance District No. 1 (SMD-1)
Wastewater Treatment Plant
Placer County

A tentative NPDES permit was issued for public comment on 16 January 2004 for Placer County Department of Facility Services' Sewer Maintenance District No. 1 Wastewater Treatment Plant. Comments were received from the County on 1 March 2004. Several iterations of the tentative permit have been issued previously and have been rewritten following meetings and a significant amount of additional technical information that was submitted by the County. The County submitted the initial Report of Waste Discharge for renewal of their NPDES permit on 28 November 2001. Supplemental information to complete the application was submitted 20 December 2001, 4 November 2002, 22 November 2002, 28 February 2003, 11 March 2003, 14 March 2003, 21 March 2003, 8 April 2003 and 18 November 2003. The following are the County's comments followed by the Regional Board's response:

**Comment 1:** In assessing the permit requirements that are appropriate for SMD1, it is critical to bear in mind that the County plans to eliminate any discharge from the plant to Rock Creek within the next five to eight years. As you are aware, the County plans to connect this facility to the City of Lincoln's Regional Wastewater Treatment Plant and Reclamation Facility. Working with Congressman Doolittle, the County has made significant progress on this project in the last 12 months. Approximately seven miles of the Regional Pipeline, from the treatment plant in Lincoln eastward to Sierra College Boulevard, is either already constructed, or is fully funded and will be completed this summer. This work is being funded locally, without federal or state assistance. Additionally, the Project has received grants totaling $5.1 million dollars through the Environmental Protection Agency (EPA), which translates to a $7.4 million dollar project fund when the local match is added. These funds will be used to complete the environmental review for the entire Regional Project, the preliminary design for the Lincoln to Auburn pipeline, and work on the SMD No. 3 and Newcastle pipelines. This work will be completed over the next 24 months.

In addition to the EPA funds discussed above, this year's Federal Budget includes the 2003 re-authorization of the Water Resources Development Act (WRDA). This legislation includes a $75 million authorization for water and wastewater projects in Placer and El Dorado counties. We are completing local agreements that will allocate $35 million of that authorization to the Regional Project. These funds will become available beginning next fiscal year, and work on the Lincoln/Auburn pipeline will proceed as we receive appropriations. While the flow of federal funds has been slower than we had desired, we have been successful in securing adequate funding to complete the first major section of the Regional Pipeline between Auburn and Lincoln over the next few years. The use of the committed federal funds for this project, however, is predicated on our ability to provide the required 40% match, and all of the upstream partners are dependent upon each other for fiscal strength. SMD1's resources are limited. If we expend our resources to construct additional treatment facilities to meet this Tentative Permit's

requirements, our opportunity to utilize the federal funds for closing SMD1, the Auburn WWTP, and the Lake of the Pines WWTP may be lost.

The planned regionalization of facilities in Placer County is consistent with policy statements by the Regional Board to encourage regional approaches. The Walnut Grove wastewater treatment plant was evaluating sending its effluent to the Sacramento Regional County Sanitation District's regional treatment plant at the time of its recent permit renewal. During the hearing on the permit, Board Member Christopher Cabaldon stated:

> *"We have been encouraging every small community that is within a thousand miles of a regional facility to connect to it. So it seems like we should be providing some sort of incentives to do that. . . . So if we want to make it more economical, more attractive. . . the whole point is to avoid this kind of [unnecessary] expense."* (Transcript of Hearing regarding SCSD No. 1 Walnut Grove Wastewater Treatment Plant NPDES Permit Renewal, June 6, 2003, at p. 42, lines 16-23.)

The Tentative Permit does not advance this goal, as it would require the County to divert resources from the regional project to plant upgrades that will have an extremely short life span. In our view, it makes no sense to sink resources into design, environmental review, and construction of capital facilities that will be obsolete almost as soon as they are built.

**Response 1:** Regional Board staff are fully supportive of regionalization of the facilities owned and operated by Placer County which would divert the flows to the City of Lincoln Wastewater Treatment Plant. The Regional Board must include compliance time schedules when there is a reasonable potential for the discharge to exceed effluent limitations. For construction of a regional facility, just like any other compliance alternative, the Regional Board cannot dictate the means of compliance. The proposed Orders contain reasonable time schedules that allow the County to determine the means of compliance.

Some of the compliance measures, such as correction of collection system inflow and infiltration (I/I) problems will be necessary regardless of whether a regional treatment system alternative is constructed. The sewer system must be adequately maintained. Spills, leaks and exfiltration of raw sewage from the collection system are unacceptable whether discharging to a Placer County or a regional wastewater treatment system. If a regional wastewater system is the selected, reduction of the I/I flows will reduce the flows from the SMD-1 area thereby reducing the regional buy in costs.

While we have received occasional updates from Placer County regarding regionalization, by our recollection this comment letter is the first confirmation that the SMD-1 facility would be participating. Regional Board staff have recently discussed the planning activities with the principal design engineer for the City of Lincoln (Dr. Robert Emerick), who stated he had not been contacted regarding any expansion of the wastewater system to accommodate regional flows. The City of Lincoln wastewater treatment plant is currently designed only to

accommodate flow from within their service area. The County's letters address planning and construction of the pipeline and have not addressed expansion, and the related costs and time, for expansion of the Lincoln wastewater treatment plant.

The County's comment letter discusses connection of the SMD-3 wastewater system to the City of Roseville. While Regional Board staff is supportive of regionalization, we are also aware that the plans and funding for such are speculative and can go seriously awry. For example, Placer County also owns and operates the SMD-3 wastewater treatment system. The WDR for this facility was adopted on 16 June 2000. Comments submitted by the County regarding the WDR, prior to adoption, indicated a major portion of the funding was available at that time for closure of the plant. The WDR for the SMD-3 facility states, in Provision No. 4, that: "The Discharger has implemented plans to close the wastewater treatment facility and divert all flows to the City of Roseville." The County indicated on numerous occasions that funding was available and the project was proceeding, for example, on 6 November 2002, the County submitted a letter stating, "Placer County has secured funding for the eventual abandonment of the SMD 3 WWTP…" to connect to the City of Roseville wastewater collection and treatment system. On 30 January 2004, we received another letter from Placer County stating that studies, environmental review and design for the SMD-3 closure could be complete within 24-months. However, there was no mention of actual construction or an anticipated final closure/compliance date. In this example, 4-years have passed, the compliance schedule has lapsed, there has been no assessment of compliance alternatives, there is no proposed final compliance date, and the beneficial uses are still unprotected. Such an example should not be repeated for SMD-1.

**Comment 2: Year-round Tertiary Treatment -** The requirement for year-round tertiary treatment is contrary to the recommendations of DHS, unnecessary to fully protect beneficial uses in the Creek, and unreasonably expensive for a facility with a five to eight year life. The requirement is also inconsistent with the approach taken by Regional Board staff in the tentative permit proposed for the City of Vacaville's Easterly Wastewater Treatment Plant (EWWTP). Both the County and Vacaville participated in cooperative processes involving Regional Board staff and DHS to determine the need for year-round tertiary treatment. DHS made similar recommendations for seasonal tertiary treatment at SMD1 and EWWTP. Despite the similarity of the processes and the DHS recommendations, the resulting permit requirements are quite different. Regional Board staff initially requested year-round tertiary treatment for the EWWTP. However, following technical meetings between DHS and RWQCB staff, DHS staff issued site-specific recommendations in a letter to you, dated March 22, 2002, and Regional Board staff revised the Tentative Permit to be consistent with DHS staff's recommendations.

The County acknowledges that the Regional Board, and not DHS, is responsible for adopting a permit that protects beneficial uses. However, both the Regional Board and the SWRCB have repeatedly recognized the importance of consulting with DHS with regard to protection of public health. The SWRCB has noted the importance of DHS expertise in this area. In its Order on the Vacaville permit, the SWRCB stated: "*The Central Valley Regional Board properly relied on the*

*Department's expertise in establishing disinfection requirements for the Easterly discharge. The Department is the state agency charged with the statutory responsibility to protect public health*." (Order WQO 2002 – 0015 at p. 49.) The County sees no justification for the Regional Board to issue a tentative permit for the City of Vacaville's EWWTP that would regulate discharges of coliform bacteria consistent with DHS staff's recommendations for that facility and, at the same time, issue a tentative permit for the County's SMD1 plant that dismisses DHS staff's recommendations for our facility. *Recommendation:* Revise the tertiary treatment requirement, and associated coliform bacteria limitations in the Tentative Permit to be consistent with DHS staff's recommendations for this facility stated in the DHS letter dated July 15, 2003. Also eliminate the effluent turbidity requirement when the 2.2 MPN/100 ml 30-day median coliform limitations apply during the winter months.

**Response 2:** Regional Board staff must protect the beneficial uses of the receiving stream, which are determined on a site-specific basis. The DHS recommendation for Vacaville has nothing to do with the SMD-3 facility. The receiving streams at Vacaville and SMD-3 are dramatically different. Vacaville lies in the valley and flows through agricultural areas. The SMD-1 facility discharges in the rolling foothills through adjacent backyards with documented recreation, food crop irrigation and domestic and municipal uses. The DHS site-specific recommendations for SMD-1 were evaluated by Regional Board staff and have been included in the proposed permit through 2009, the life of the permit. Regional Board staff concluded that the DHS recommendation would not protect the beneficial uses of the receiving stream. In reviewing the data for SMD-1, Regional Board staff concluded that the County requested relaxed limitations to account for excessive I/I, which is caused by a lack of maintenance and has additional environmental impacts. After that date, the County must determine the means of compliance. Regional Board staff review of the current situation is that I/I correction; additional filtration or connection to the regional facility would be acceptable means of achieving compliance. The County must determine the means of compliance.

**Comment 3: Schedule for Denitrification** As explained in the cover letter, use of the committed federal funds for the Regional Project is predicated on our ability to provide the required 40% match, and all of the upstream partners are dependent upon each other for fiscal strength. SMD1's resources are limited. If we expend our resources to construct additional treatment facilities, including denitrification facilities, to meet this Tentative Permit and Cease & Desist Order's requirements, our opportunity to utilize the federal funds for closing SMD1, the Auburn WWTP, and the Lake of the Pines WWTP may be lost. The Cease & Desist Order's full compliance date for denitrification is January 30, 2007. Based on this full compliance date, the County would need to begin expending funds for preliminary design *this year*, and would spend millions of dollars to fully design, construct, and operate these facilities by 2007, only to take SMD1 off line through the Regionalization Project 2 to 5 years later. In addition to the jeopardy that such expenditures create for regionalization, the County is concerned about the fiduciary implications of spending millions of dollars in municipal infrastructure only to turn around and dismantle that infrastructure a few years later.

As the permit findings acknowledge, the effluent limitations for nitrite and nitrate are new effluent limitations, which were not included in previous orders for the SMD1 plant. The Basin Plan allows for up to ten years to comply with effluent limitations that are based upon a new interpretation of a water quality objective. *Recommendation:* Revise the permit to allow a ten-year compliance schedule for meeting the nitrate/nitrite requirements.

**Response 3:** Domestic uses of the receiving stream have been documented. The Basin Plan requires that discharges cannot cause drinking water standards to be exceeded in a receiving stream. The discharge has a reasonable to cause the receiving stream to exceed the drinking water standard for nitrate. The nitrate drinking water standard is based on protection of the public health. Failures to eliminate the excessive nitrate concentrations threaten the public health. Contrary to the County's comment, there is no new interpretation of a water quality objective for establishing the nitrate limitation.

A Cease and Desist Order, No. 96-087, was adopted in 1996 for the SMD-1 facility. One of the principal issues was toxic ammonia concentrations. The Cease and Desist Order contained a compliance schedule that required evaluation of the WWTP, short term corrective actions to improve WWTP performance, construction of new ammonia removal facilities to begin by 1 April 1997, and complete construction and full compliance by 1 April 1998. In an effort to reduce violations of the ammonia Receiving Water Limitations, the Discharger has purchased water from Placer County Water Agency and discharged it to Rock Creek for dilution purposes prior to the discharge point. Ammonia violations were reduced but continued to occur. The Discharger has completed improvements at the WWTP and to the collection system, however, they have not complied with the schedule in the Cease and Desist Order. In May 2000, the Discharger submitted a proposal to construct new facilities and retrofit existing facilities to provide additional ammonia removal. On 13 September 2000, Regional Board staff issued a Notice of Violation to Placer County for the SMD-1 facility. The NOV addressed a number of issues. The NOV strongly recommended that denitrification be included in the plant upgrades. It was Regional Board staff's opinion that a nitrate limit was likely to be included in the next NPDES permit renewal. It was also staff's opinion that nitrification and denitrification facilities work in a systematic way, and the design and construction for both operations would be significantly more cost effective. No work plan or response was submitted by the County. Construction began on the new facilities and retrofits were to be completed in 2002. The County ignored the Regional Board recommendation to construct an efficient and cost effective nitrification/denitrification system. The County's estimate of "millions of dollars" to provide denitrification has no supporting engineering analysis. Many dischargers in the region denitrify their wastestream at significantly lower cost than that estimated by Placer County.

**Comment 4: Flow-based Effluent Limitations** - The County's Report of Waste Discharge requested that Regional Board staff evaluate/develop flow-based effluent limitations for the SMD1 permit. This request was made because the County controls (via purchasing Nevada

Irrigation District water that is then conveyed down Rock Creek past SMD1) and gages summer/fall low-flow conditions in its receiving water, Rock Creek. Flow-based effluent limitations are reflective of actual in-stream conditions and represent a more precise mechanism to ensure reasonable protection of beneficial uses. *Recommendation:* Revise the permit to include flow-based effluent limitations for constituents, where appropriate.

**Response 4:** The County has proposed to purchase raw water to provide "dilution" in the receiving water, rather than provide adequate treatment. Federal regulations require that if a constituent presents a reasonable potential to exceed a water quality standard, an effluent limitation is required, not a receiving water limit as cited by the County. An effluent limitation would make an instream dilution target impossible.

In order to consider dilution, however, dilution is based on flow and individual constituent assimilative capacity. The County has requested flow based limitations based on hydraulic flow only. The quality of the water supply used for "dilution" has not been assessed to determine what if any assimilative capacity exists within the receiving stream. NID, the upstream water purveyor, obtains water from varying sources. The "dilution" water quality would be significantly different depending on the source. A water quality analysis for the dilution water has not been submitted for any constituent. Many constituents are hardness, pH and/or temperature dependent, which changes significantly from the varying water supplies. Since the source of water varies, there is no assessment of whether any characterization would reliably represent the "dilution" water. The County has not submitted any information that the proposal is a reliable means of achieving compliance. Based on the number of past violations, the County has unsuccessfully tried utilizing "dilution" to comply with ammonia limitations.

The County's proposal is technically unsupported and does not appear possible based on effluent limitation requirements. It should also be noted that dilution and mixing zones are subject to conditions and requirements of the SIP and the Basin Plan. The mixing zone requirements of the SIP and Basin Plan have not been addressed by the County, specifically:

> The Basin Plan allows mixing zones provided the Discharger has demonstrated that the mixing zone will not adversely impact beneficial uses. The Basin Plan further requires that in determining the size of a mixing zone, the Regional Board will consider the applicable procedures in EPA's *Water Quality Standards Handbook* and the *Technical Support Document for Water Quality Based Toxics Control* (TSD). Mixing Zones will be limited to a small zone of initial dilution in the immediate vicinity of the discharge. The Basin Plan also requires a complete analysis of additive toxicity.
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> The State Implementation Plan (SIP) for the *California Toxics Rule* (CTR) allows for mixing zones. It is the Regional Board's discretion whether to allow a mixing zone. The SIP, in part, states that mixing zones shall not:

- Compromise the integrity of the entire water body.
- Cause acutely toxic conditions to aquatic life passing through the mixing zone.
- Restrict passage of aquatic life.
- Adversely impact biologically sensitive or critical habitats.
- Dominate the receiving water body.
- Overlap a mixing zone from a different outfall.

U.S. EPA's *Water Quality Standards Handbook* (WQSH) states that States may, at their discretion, allow mixing zones. The WQSH recommends that mixing zones be defined on a case-by-case basis after it has been determined that the assimilative capacity of the receiving stream can safely accommodate the discharge. This assessment should take into consideration the physical, chemical, and biological characteristics of the discharge and the receiving stream; the life history of and behavior of organisms in the receiving stream; and the desired uses of the waters. Mixing zones should not be allowed where they may endanger critical areas (*e.g.* drinking water supplies, recreational areas, breeding grounds and areas with sensitive biota).

**Comment 5: Winter Mass Limitations** - The County requests that mass limitations for permitted constituents be based on the appropriate design flow for wet and dry seasons, according to the following equation.

Formula: *x* mg/l x 8.345 x design flow in mgd = lbs/day

The U.S. EPA's NPDES Permit Writer's Manual (U.S. EPA 1996) states: "*According to 40 CFR section 122.45(f), permit writers must apply these secondary treatment standards* [BOD and TSS] *as mass-based limits using the design flow of the plant*." Because the "design flow" of any plant in the Central Valley is not a single number, but rather both average and peak daily flows for both dry-weather and wet-weather periods, mass limits need to be permitted accordingly. Doing so is both technically appropriate and consistent with U.S. EPA guidance on the matter.

For the dry weather period, the plant's design dry weather flow rate of 2.18 mgd is appropriate, and should be used as the "design flow" factor in the above equation. For the wet weather period of the year, the plant's design wet weather flow rate of 5.06 mgd should be used as the "design flow" factor in the above equation. Doing so is consistent with permits issued by the Regional Board for the City of Lincoln, Sacramento Regional County Sanitation District, and the City of Vacaville, where flows higher than the average dry weather flow are used as the "design flow" input to the above equation for times of year/operating conditions when discharge rates are known to exceed average dry weather flow rates. Permitting constituent mass limits based on average dry weather flows, year-round, unnecessarily places the County at risk of violating effluent mass limitations during the winter period of the year despite the fact that there would be no adverse water quality impacts. This comment was made by the County previously, but has not

been fully addressed to date. *Recommendation:* Calculate mass effluent limitations based upon both dry weather and wet weather flows.

**Response 5:** Regional Board staff agree that *according to 40 CFR section 122.45(f), permit writers must apply these secondary treatment standards* [BOD and TSS] *as mass-based limits using the design flow of the plant.* Some wastewater treatment plant unit processes are designed using both average dry weather and wet weather flows. A proper treatment plant design must account for average dry weather flows, wet weather flows and organic loading rates depending on the unit process and each individual component of that unit process. The appropriate design flow for organic loading rate is the average dry weather flow rate, not both the average dry and wet weather flow rates. The mass limitation is included as required by federal regulations, principally based on assuring that organic overloading of the wastewater treatment plant does not occur. The permit as written is correct in limiting mass based on the average dry weather flow rate to assure that the treatment system is not organically overloaded.

Rarely, wet weather mass limitations have been appropriately included in an NPDES permit. As example, the City of Grass Valley clearly showed that influent iron and manganese concentrations were from mining sources, which only flowed during wet weather periods. There, an appropriate wet weather mass limitation was added. The addition of wet weather mass limits would be incorrect for this discharge and the County has submitted no information that any parameters are produced by wet weather events or to support their conclusion that "…there would be no adverse water quality impacts". An increase in the mass loading of pollutants to the receiving stream would also need to be supported by an antidegradation analysis.

**Comment 6: Reasonable Potential Analyses and Resultant Effluent Limitations** - In determining whether effluent limitations were necessary for metals subject to hardness-based California Toxics Rule (CTR) criteria, undiluted effluent concentrations were compared to standards calculated from undiluted receiving water hardness values, which is contradictory. If effluent is dominating the receiving water, then effluent hardness will dominate, and vice versa. The approach for determining compliance with hardness-based CTR standards needs to consider the range of hardness and metals concentrations that could occur downstream of the discharge point for all dilution scenarios, not a single worst-case combination of the effluent metal's concentration and receiving water hardness, which could never actually co-occur. The ranges of concentrations that could actually occur in the receiving water downstream of the WWTP, given actual worst-case initial metals and hardness concentrations, are discussed below in the specific comments for each metal.

**Response 6:** For hardness based metal limitations, the permit follows the CTR, the SIP and guidance from EPA and the State Water Resources Control Board in establishing reasonable potential and determining the need for an effluent limit. The Regional Board consulted with State Board staff regarding the appropriate hardness for varying situations. State Board staff recommendations for determining reasonable potential for varying hardness situations is

contained in a memo from Carl Henriet dated 25 April 2001. For conditions where there is potentially no dilution and the upstream water is softer than the effluent, the State Board recommend that upstream hardnesses may be overly protective, the effluent hardness may be protective and that the downstream hardness would be protective. The SIP allows the Regional Board flexibility to use its judgment in deciding which hardness is appropriate for determining reasonable potential. In exercising our judgment, the Regional Board used conditions that assure protection of the receiving stream in determining reasonable potential and exercised flexibility in developing a hardness dependant effluent limitation. Once it was determined that an effluent limitation was required, the proposed permit generously allows for an adjustment based on the hardness at the time of discharge. A permitting option, which is commonly used, would have been to develop one numeric effluent limitation simply based on the worst case. The reasonable potential analysis is fully explained in the Findings and Fact Sheet for each individual constituent.

**Comment 7: Issuing a Cease & Desist Order vs. Compliance Schedules in the Permit.** The Regional Board has recognized that the SMD1 plant cannot immediately comply with a number of effluent limitations proposed in the Tentative Permit. To allow time to come into compliance, the Regional Board has proposed in-permit compliance schedules for some tertiary-treatment related requirements and CTR-based limitations. The permit also includes, however, a dozen new effluent limitations to which the facility has never before been subject. (Effluent Limitations B.1.) As drafted, the Tentative Permit would require immediate compliance with these limitations, which is not possible. There is no debate about the County's ability to comply with these requirements; the proposed approach for addressing compliance with these limitations, however, is a Cease and Desist (C&D) Order—an outside enforcement order. Absent a compliance schedule in the permit itself, the County is exposed to mandatory minimum penalties for violations of the final effluent limitations listed in Table B.1 (page 50) of the permit throughout the compliance period. (Water Code §13385(h) (i) and (j).) Diverting resources to payment of penalties for violations of effluent limitations that the plant simply cannot meet will further strain the County's ability to pursue regional solutions. To avoid this unfair exposure to penalties, compliance schedules and the required studies and submittals should be incorporated into the revised Tentative Permit for all constituents set forth in the C&D and the C&D should be eliminated.

The Regional Board has the discretion, as evidenced by the Tentative Permit issued on January 16, 2004 for the City of Vacaville's Easterly Wastewater Treatment Plant (EWWTP), to issue in-permit compliance schedules for new regulatory requirements, rather than addressing future compliance via a C&D. As noted in the EWWTP Tentative Order, where past permits did not include a numeric effluent limit for a particular pollutant, and there has been a new interpretation of the Basin Plan, a compliance schedule can be included in the permit itself. (See EWWTP Tentative Order, Finding No. 26.) The current SMD1 permit, issued June 30, 1997, does not contain effluent limitations for any of the constituents listed in the table provided on p. 3 of the C&D. In addition, the 2 NTU daily average turbidity effluent limitation included in the C&D (p.

4) has not previously been an effluent limitation for the SMD1 plant (the 1997 permit contains only a monthly average 2 NTU limitation, not a daily average limitation). The Basin Plan objectives upon which these requirements are based were in place when the prior permit was issued, yet no effluent limitations for the constituents listed in Provision B.1 were incorporated into that permit. Thus, the effluent limitations are the result of a "new interpretation" of the Basin plan and in-permit compliance schedules are appropriate.

**Response 7:** The Regional Board may issue a cease and desist order containing a compliance schedule whenever it finds that the discharge is taking place, or threatening to take place, in violation of the waste discharge requirements. The Basin Plan and the federal regulations allow a compliance schedule to be placed in the Permit rather than a cease and desist order only in certain circumstances. The Regional Board is not required to place a compliance schedule in the Permit. This Regional Board, however, typically places compliance schedules in the Permit where it is authorized to do so under state and federal requirements.

CWA Section 301(b)(1)(C) provides that NPDES permits must require compliance with water quality-based limitations by July 1, 1977. Since it is past July 1, 1977, permits must require immediate compliance unless a compliance schedule is authorized. EPA has interpreted the CWA to allow compliance schedules in an NPDES permit only where there is express authorization either in the water quality standard itself (i.e., Basin Plan) or in the State's regulations implementing the standard. An EPA administrative decision held that, if a water quality standard was adopted prior to July 1, 1977, and did not undergo any substantive change after that date, immediate compliance is mandatory. The opinion also held that a compliance schedule can be included in a permit for a state water quality standard adopted or revised after July 1, 1977, only if the standard itself or the state's regulations implementing the standard specifically authorize a schedule of compliance. (See In the Matter of Star-Kist Caribe, Inc., NPDES Appeal No. 88-5.)

The State Board has also determined that for NPDES permits, compliance schedules may only be incorporated into permits if their use is authorized by an applicable water quality control plan or policy. (See State Board Order WQ 95-4, (1995).) Both the Regional Board Basin Plan and the SIP allow compliance schedules in specified circumstances and for specified time periods. The Basin Plan allows compliance schedules in the Permit for new objectives or criteria adopted since the effective date of the Basin Plan provision, i.e., September 25,1995.

Compliance schedules have been included in the Permit where the limitations are based on newly adopted standards, such as the CTR. Compliance schedules have been included in the Cease and Desist Order where the limitations are based on existing standards or objectives consistent with the Basin Plan and federal regulations concerning schedules of compliance. The Regional Board is required to apply the applicable federal and state regulations and policies in specifying effluent limitations even if it might subject dischargers to enforcement action. A late

revision has been added to the C&D providing protection from mandatory penalties during the compliance period.

The statement that there were "new interpretations" of the Basin Plan in determining effluent limitations is not correct. There are no "new interpretations" of the Basin Plan, which would *possibly* facilitate placement of time schedules in the proposed permit as was the case with the City of Vacaville permit. Failure to include Effluent Limitations could be attributed to error in the existing permit, not a new interpretation of the Basin Plan.

**Comment 8:** **Finding 3, Permit p. 1 – Plant Processes.** It should be noted that the plant has four primary clarifiers, two of which can be used for backwash flow equalization rather than the two noted here and on the first page of the C & D Order.

**Response 8:** The word "two" will be deleted from Finding No. 3 and the C&D as requested.

**Comment 9:** **Finding 6, Permit p. 2 – Discharge Point.** The SMD No. 1 WWTP actually has two discharge points about 100 feet apart on Rock Creek. Chlorine Contact Basin No. 2 has its own discharge pipe to the creek used only when Chlorine Contact Basin No. 3 is out of service for cleaning (about 5 days per quarter). In a recent inspection of the plant by a State contractor, the inspector noted that our existing permit does not mention two discharge locations and requested that the new permit do so. Accordingly, we request that the draft permit be revised to show the two existing discharge locations.

**Response 9:** The permit does not currently specify a chlorine contact basin as the "final" unit process prior to discharge. The permit does not identify the discharge location except in latitude and longitude. The permit does require effluent sampling. Effluent sampling must be done continuously, by 24-hour composite or grab samples, depending on the constituent. It would be unusual to have composite and continuous sampling systems on a pipeline that is used on a temporary basis, for 20 days per year. This sampling would, however be required. Tertiary treatment also requires a minimum modal contact time to assure an effective "kill" of pathogens. The County has not submitted sufficient information to show that there is proper treatment without contact basin No. 3 on-line which would facilitate the addition of another discharge location, as requested. If there is adequate contact time, the same discharge location could be utilized when discharging from Basin No. 2, which would make the request unnecessary.

**Comment 10:** **Finding 9 – Beneficial Uses.** Finding 9(a) – MUN and AGR. This Finding should acknowledge that DHS does not approve of domestic use of water served by NID from the canals and ditches cited under this Finding. DHS staff spoke to this issue in the technical meetings held with Regional Board staff on April 3 and 14, 2003. Moreover, the AGR use is seasonal, which needs to be acknowledged here. The County recognizes that the Regional Board has applied these beneficial uses to Rock and Dry creeks and downstream water bodies based on the "tributary statement." However, great effort has been expended, through the April 3 and 14,

2003 technical meetings with DHS, to define the type, degree, and seasonality of MUN and AGR uses in water bodies downstream of the discharge from SMD1. These Findings are not included here, but should be, because they serve as the technical basis from which DHS made its site-specific recommendations pertaining to SMD1 waste discharge requirements necessary to protect public health.

**Response 10:** The County's statement that; "This Finding should acknowledge that DHS does not approve of domestic use of water served by NID", implies that DHS disapproves of this use. DHS is aware of the domestic and municipal use. DHS has the authority to prohibit such a use, and has not done so.

There is no technical information for this facility that would confirm that AGR use is seasonal. We have received no site-specific assessment of the agricultural uses of this specific receiving stream and downstream waters. The proposed statement regarding seasonal uses is technically unsupported.

The statement that the Regional Board has applied the irrigated agricultural beneficial use solely based on the tributary rule, is not correct. Regional Board staff confirmed site specifically, as is detailed in the Findings and Information Sheet that irrigated agriculture is an actual use of the receiving stream. NID, a water purveyor, has confirmed agricultural, recreational and municipal and domestic uses of the receiving stream.

The irrigation of home gardens with water from this receiving stream is well documented. It is reasonable to assume that these gardeners grow winter vegetables as well as summer varieties. Placer County has not conducted a site-specific assessment that would contradict the documented irrigation uses. Regional Board staff walked the creek immediately downstream of the discharge confirming irrigated agricultural uses.

Regional Board staff is unaware of any site-specific assessment by the County which defined the type, degree, and seasonality of MUN and AGR uses in water bodies downstream of the discharge from SMD1. The site-specific information for the receiving stream collected by Regional Board staff lead to contrary conclusions than those reached by the wastewater Discharger.

**Comment 11: Finding (c), p. – Contact Recreation.** This Finding should acknowledge that full body contact recreation (i.e., swimming) is a seasonal use occurring in the non-precipitation, warm-weather months of the year. The Finding also states: "*Camp Far West Reservoir, the Bear River, the Feather River, and the Sacramento River are also used extensively for contact and non-contact recreation."* Although this statement is true as far as it goes, the finding should also acknowledge that the dilution of SMD1 effluent within each of the water bodies cited above far exceeds 20:1. Full body contact recreation is one of the beneficial uses upon which the Tentative Permit relies in order to justify year-round tertiary treatment at SMD1. The Findings currently

included in the Tentative Permit do not tell the full story and ignore key issues of seasonality and dilution. Therefore, this Finding should be revised to address such facts, and to fully capture the nature of the discussions and findings from the two technical meetings held with Regional Board, County, and DHS staff on April 3 and 14, 2003.

**Response 11:** The Discharger did not conduct a site-specific recreational survey of the receiving stream and downstream waters. There is no site-specific information to support the request for a statement that the recreation use occurs seasonally. Regional Board staff walked the receiving stream and spoke with numerous residents immediately downstream of the discharge, confirming recreational uses and easy public access to the receiving stream. Regional Board staff found the receiving stream flowing through residential back yards. Some of the backyards were landscaped to the creek. Swimming is not the only use constituting contact recreation which necessitates tertiary treatment. It is reasonable that recreational uses occur year round, contrary to the wastewater Discharger's technically unsupported conclusion.

The Discharger requests that a statement be included in the permit that a 20 to 1 (receiving stream to effluent) dilution ratio exists in downstream waters. While intuitively this would seem to be correct, there is no supporting documentation of the minimum downstream flow rates which would allow for the addition of this statement.

**Comment 12: Finding #11, p. 8 – Tertiary Treatment.** This Finding includes the following statements:

> "*The wastewater must be treated to tertiary standards (filtered) to protect contact recreation and food crop irrigation uses*."…
>
> "*The Title 22 standards are the minimum wastewater treatment standards necessary to protect public health when wastewater is reused for beneficial uses." ...*
>
> *"However, the Regional Board finds that it is appropriate to require an equivalent level of treatment to the DHS reclamation criteria because Rock Creek and downstream waters are used for irrigation of agricultural lands, for contact recreation and for domestic uses." ...*
>
> *"DHS has determined that a specific level of treatment is required for reclaimed water delivered in dedicated pipes or canals. Therefore, to protect public health, the same level of treatment is required for water that is delivered in a streambed for the same uses." ...*
>
> *"The method of treatment is not prescribed in this Order, however, wastewater must be treated to a level equivalent to the tertiary level recommended by DHS*."

Again, the statements above fail to acknowledge the discussions, findings, and DHS July 15, 2003 recommendations that came from the April 3 and 14, 2003 technical meetings that evaluated the need for year-round tertiary treatment at SMD1. Full body contact recreation

(swimming) and irrigation are both seasonal uses. U.S. EPA and the State recognize and allow for seasonal uses. Therefore, in order to recognize the seasonality, type, and degree of contact recreation, irrigation, and domestic uses occurring in the downstream receiving waters, and the DHS site-specific recommendations pertaining to SMD1 waste discharge requirements necessary to protect public health based on these site-specific factors, the following modifications to the above-cited findings are necessary.

"*The wastewater must be treated to tertiary standards (filtered) to protect contact recreation and food crop irrigation uses, when such uses are likely to occur."*

"*The Title 22 standards are the minimum wastewater treatment standards necessary to protect public health when undiluted wastewater is directly reused for beneficial uses."*
*...*
*"However, the Regional Board finds that it is appropriate to require an equivalent level of treatment to the DHS reclamation criteria during the irrigation season when ~~because~~ Rock Creek and downstream waters are used for irrigation of agricultural lands and for contact recreation ~~and for domestic uses~~. The DHS prohibits domestic uses of downstream creek and canal waters that contain a high proportion of SMD1 effluent."* ...

~~*"DHS has determined that a specific level of treatment is required for reclaimed water delivered in dedicated pipes or canals. Therefore, to protect public health, the same level of treatment is required for water that is delivered in a streambed for the same uses."* ...~~

~~*"The method of treatment is not prescribed in this Order, however, wastewater must be treated to a level equivalent to the tertiary level recommended by DHS."*~~*"Based on the factors specific to the SMD1 discharge and receiving waters, including the location, seasonality, type, and degree of contact recreation, irrigation, and domestic uses of downstream waters, the DHS has recommended that tertiary treatment is necessary to protect public health, except as noted below*:

1. *The plant is subject to very high flow rates during, and immediately following storm events. Plant flow that exceeds the capacity of the filters can be allowed to bypass the filtration process during these events, provided the filter capacity is at least 30% greater than the permitted average dry weather flow.*
2. *A monthly median coliform bacteria count of 2.2 MPN/100 ml can be allowed during the cold weather season. This season can be defined either on the basis of months (e.g., November 1 through April 30), or by receiving water temperature. Regarding receiving water temperature, DHS recommended that the "cold weather season" for this facility be defined as beginning when the 7-day median receiving water temperature first falls below 60F, and ending when the 7-day median receiving water temperature first rises above 60F."*

*DHS stated the above exceptions will not compromise public health because the likelihood of critical beneficial uses (i.e., body contact recreation and food crop irrigation) occurring during cold weather periods is low.*

The County requests that the DHS input and recommendations pertaining to this permit renewal be fully acknowledged and used, as was intended when meetings were called with DHS in April 2003.

For the record, it also should be noted that other wastewater treatment plants in the Central Valley have constructed full tertiary treatment, but they have done so for reasons other than those cited in this draft Finding. For example, the El Dorado Irrigation District went to full filtration at its Deer Creek WWTP, a situation almost identical to that of SMD1, because its recycled water master plan indicated it was cost-effective to expand the recycled water program, not because full filtration was required to protect public health (see EID's updated Recycled Water Master Plan 2002, EID November 2001 report titled: "*Investigations of Effluent Coliform Bacteria Levels and CBOD/TSS Mass Loading for the Deer Creek Wastewater Treatment Plant: Technical Report in support of Proposed Permit and Plant Modifications*," and the DHS letter issued for the Deer Creek plant, which is Appendix C of the above-cited report).

**Response 12:** It is agreed that Finding No. 11 contains the italicized statements provided in the comment. The statements however, are out of context, and the Finding should be read in its entirety.

The information used to develop the permit utilized the discussions, DHS recommendations, all information presented by the discharger, the applicable regulations and Regional Board staff's site specific review of the actual receiving stream conditions. Following the meetings with the County and DHS, Regional Board staff conducted a site-specific review of the receiving stream conditions and uses. Based on an actual review of the receiving stream conditions, Regional Board staff concluded that contact recreation and irrigated agriculture are year round beneficial uses of the receiving stream. The Discharger did not submit any site-specific information, which is contrary to this conclusion. The Discharger's alternative conclusions appear to be based solely on studies conducted at Deer Creek in El Dorado County. Regional Board staff review and knowledge of the site-specific conditions at Deer Creek, lead to the conclusion that the information is not applicable.

Seasonal limitations are allowable under the regulations, but are not protective of the actual uses of the receiving stream downstream of SMD-1. Contact recreation, irrigated agriculture and domestic uses may occur year round on Rock Creek, Dry Creek, Coon Creek and downstream waters.

The Discharger's comment that "The DHS prohibits domestic uses of downstream creek and canal waters that contain a high proportion of SMD-1 effluent" is incorrect. Regional Board

staff is unaware of any such prohibition. The domestic use occurs downstream of the SMD-1 discharge. Regional Board staff is unaware of any DHS action to prohibit such domestic use.

The Discharger has presented several comments regarding the Deer Creek Wastewater Treatment Plant in El Dorado County. Regional Board staff disagree with the comments, but is not providing a detailed response since the Deer Creek facility is not at issue and the comments are not relevant to the issues at hand for SMD-1. The Dischargers comment regarding why other Dischargers have tertiary treatment requirements is incorrect and unsupported.

**Comment 13:** **Finding #12, p. 9 – Tertiary Treatment of all Flows.** The last sentence of this finding states:

> "*This Order provides that rerouting wastewater around the gravity filters will continue to be necessary for flows above 3.5 mgd and requires the Discharger correct the source of excessive I/I or build additional filtration capacity to provide tertiary treatment or equivalent for all wastewater flows*."

First, this Finding completely ignores the DHS recommendation made for this facility. DHS stated in its July 15, 2003 letter that: "*The plant is subject to very high flow rates during, and immediately following storm events. Plant flow that exceeds the capacity of the filters can be allowed to bypass the filtration process during these events, provided the filter capacity is at least 30% greater than the permitted average dry weather flow."* The permitted average dry weather flow (ADWF) for SMD1 is 2.18 mgd. A flow 30% greater than the permitted ADWF would be 2.8 mgd. SMD1 can filter up to 3.5 mgd; hence, the plant currently provides for greater filtration capacity than that indicated as necessary to protect public health by DHS.

Second, the wet weather flows experienced by SMD1 are not atypical of plants in the foothills of Region 5. The County has an I/I corrective action plan that it works on annually, and is planning to continue reducing I/I in the future. That said, even the best, fully implemented I/I program would not be expected to reduce wet weather flows below 3.5 mgd. Hence, further work on I/I will not remove the future need to route peak flows around the filters during and following storm events in the winter. As DHS indicated in its July 15, 2003 letter, such bypasses can occur and human health will be protected. Hence, the final sentence of this Finding should be modified as follows: "*This Order provides that rerouting wastewater around the gravity filters will continue to be necessary for flows above 3.5 mgd and requires the Discharger correct the source of excessive I/I ~~or build additional filtration capacity to provide tertiary treatment or equivalent for all wastewater flows~~."*

**Response 13:** As stated in the comment above, the information used to develop the permit utilized the discussions, DHS recommendations, all information presented by the discharger, the applicable regulations and Regional Board staff's site specific review of the actual receiving stream conditions.

The design dry weather flow rate of the SMD-1 facility is 2.18 mgd. The County assessed, in the Report of Waste Discharge, that the current dry weather influent flow is approximately 1.67 mgd, and the hourly peak wet weather flow rate is 8.37 mgd. The peaking factor of wet weather over actual dry weather flow is therefore (8.37/1.67) 5. During the construction grant era, U.S. EPA considered a wet weather peaking factor above 2.75 as excessive I/I and would not fund such projects. Obviously, a peaking factor of 5 is well above the 2.75 factor U.S. EPA considers excessive for I/I.

A flow rate 30% greater than average dry weather flow discussed by DHS has no technical basis. Filters are designed for a range of flow loading rates. The design parameters for the SMD-1 filters have not been submitted. Normal filter design should be capable of treating typical wet weather flow rates if the original design was based on the average design dry weather flow rate of the WWTP. Filters would not be capable of treating excessive peak weather flows, the condition at SMD-1, unless specifically designed for such hydraulic loading. Reduction of the peaking factor to an acceptable level could make any costs associated with construction of additional filter capacity minimal.

Although there is no supporting documentation, if excessive I/I is typical of wastewater treatment plants located in the foothills, that does not make it an acceptable condition. Regional Board staff review of the I/I correction program that has been undertaken by the County thus far reveals a nonaggressive program that has not produced significant reduction in flows.

**Comment 14: Finding #13, p. 9-11 – Requirements to Provide Tertiary Treatment.** Page 10, paragraph two of this Finding states: "*Prior to permit renewal, and anticipating a requirement to provide full tertiary treatment, the Discharger consulted with DHS staff*." This statement is inaccurate and misleading and, therefore, should be deleted from the Finding. The Discharger did not meet with DHS staff in isolation. Rather, as part of the permit renewal process, the Discharger and Regional Board staff met with DHS. Significant time was spent by meeting participants, including Regional Board staff, clearly defining and communicating the nature of downstream beneficial uses. Moreover, Regional Board staff issued a letter on March 20, 2003 to DHS requesting review of tertiary treatment requirements for the County's SMD1 plant.

On p. 10, last paragraph, this Finding states: "*The DHS recommendation will not protect contact recreation, food crop irrigation and domestic and municipal beneficial uses during periods when the receiving water is less than 60F and effluent flows exceed 3.5 mgd*." This statement is incorrect. The DHS recommendation was made based on the seasonality and degree of uses occurring, but also was based on the quality of effluent that would be discharged from the SMD1 plant under its recommendations – a quality DHS stated would be protective of public health. DHS has gone on record stating that receiving water quality will be protective of public health associated with contact recreation, food crop irrigation, and domestic uses.

The DHS recommendation was made with full knowledge of downstream drinking water and domestic uses, as identified and discussed in the April 2003 technical meetings. The last sentence of p. 10, which continues onto p. 11 states: "*DHS made their recommendation absent technical documentation regarding the receiving stream beneficial uses*." This statement is incorrect. A tentative permit had already been prepared at the time of the April 2003 meetings with DHS, which, as this Tentative Permit does, clearly identified the beneficial uses of Rock Creek and downstream water bodies. DHS staff went beyond the broad use designations and acknowledged the seasonality, type, and degree of contact recreation, irrigation, and domestic uses occurring downstream of SMD1, evaluated the quality of effluent that would be discharged from SMD1 year-round, downstream dilution, and made site-specific recommendations for SMD1 waste discharge requirements necessary to protect public health. This Finding attempts to ignore this reality, makes unsubstantiated statements that are inconsistent with the facts and the record, and attempts to use such unsubstantiated statements as a basis for the tertiary treatment requirement. Such an approach is technically inappropriate and is not reflective of best available information and DHS expert recommendations.

The Finding then attempts to justify the year-round tertiary treatment by allowing the DHS recommendation, but only as an interim measure, until such time that the County further addresses its I/I issue. The premise here is that the only reason to bypass the filters in the winter is an excessive I/I problem. This is inaccurate and incorrect. As stated previously, no I/I program will reduce all wet whether flows at SMD1 to less than 3.5 mgd. Hence, SMD1 flows will exceed 3.5 mgd periodically during the precipitation period of the year, regardless of the nature of the I/I corrective action program. The statement (p. 11, paragraph three): "*The Discharger's justification for relaxed discharge standards is based on excessive I/I into the collection system*." is incorrect and thus should be deleted. The fact is that the Discharger engaged in technical meetings with Regional Board and DHS staff to objectively and technically define whether treatment at levels less than full Title 22 level treatment would protect public health. Upon reviewing the site-specific information, DHS stated in its July 15, 2003 letter that relaxation of full tertiary treatment, under specified conditions, could be allowed and still protect public health. In recognition of DHS expertise, Regional Board staff requested that DHS review tertiary treatment requirements for the County's SMD1 plant, but are not implementing the recommendations that DHS developed in response. Regional Board staff have not provided any, factual, evidentiary basis for disagreeing with the DHS site-specific recommendation for SMD1.

**Response 14:** The comment expresses disagreement with the information provided in the Findings and the Information Sheet. The Findings and Information are correct as written. The comments are repeated from previous comments. Information regarding the site-specific uses of the receiving stream and the beneficial uses are address in the above response to comments.

**Comment 15: Finding #14(b), p. 12 –Tertiary Treatment.** This "b" paragraph of Finding #14 contains incorrect and inaccurate statements. The entire paragraph should be deleted.

**Response 15:** The comment is lacking in any specific detail or support for the conclusion reached. Finding No. 14 is correct and accurate.

**Comment 16 Finding #14(c), p. 12 – Fishable/Swimmable.** This Finding mischaracterizes the DHS recommendation for SMD1, mischaracterizes "fishable and swimmable" as defined in Section 101(a)(2) of the Clean Water Act, and prescribes the type and degree of treatment for the facility. All downstream water bodies, including Rock Creek, currently support fish communities, as documented by Finding 9(d) of this Tentative Permit, and thus currently meet the definition of "fishable." To suggest that the requirements of this Order must be met to protect and maintain a "fishable" use is incorrect.

DHS did not state "…*a swimmable condition need not be achieved under certain conditions*." Rather, DHS acknowledged that people do not swim in foothill creeks during the late fall, winter, and early spring months when water temperatures are below 60F. To do so would place the individual at immediate risk of hypothermia. Moreover, the likely frequency of swimming events under such conditions, coupled with the DHS recommended effluent limitations of 2.2 MPN/100 m/ as a 30-day average and 23/240 MPN/100 ml as a daily maximum, would result in a very minimal risk of illness level to the public that meets DHS recommendations regarding acceptable risk levels.

Regarding conditions suitable for achieving the use "swimmable," the Regional Board has essentially defined achieving this use in the downstream water bodies upon the discharge meeting a total coliform bacteria concentration of 2.2 MPN/100 ml as a 7-day median (i.e., the use is only met if Title 22 level tertiary treatment occurs at SMD1). The Basin Plan states that, to protect REC-1 uses (swimming) that receiving waters meet fecal coliform levels of 200 (median) /400 (90th percentile) MPN/100 ml. In September 2002, the Regional Board adopted a revised water quality objective for bacteria that replaced the fecal coliform objective with an *E. Coli* objective of 126 MPN/100 ml (30 day average) and 235 MPN/100 ml (single sample.). In adopting the objective, the Regional Board relied on the U.S. EPA 1986 bacteria criteria, noting that it represents the "best science available" and found that the objective provided equivalent protection of the water contact beneficial use as the existing objective. (Resolution R5-2002-0150.) In other words, less than two years ago, the Regional Board re-affirmed that the current Basin Plan objective adequately protects the Rec-1 beneficial use. Although it is recognized that use of coliform bacteria in both cases is a surrogate for the pathogens of public health concern, such as human enteric viruses, the total coliform bacteria requirements of this NPDES permit would result in risk of illness levels for swimmers that are orders of magnitude lower than the Basin Plan objectives or the U.S. EPA criteria for the receiving waters (from all sources). Finally, DHS's review of the technical data indicates that the County's existing treatment of secondary with tertiary treatment up to 3.5 mgd is adequate for public health protection (during the winter months). Consequently, it is inaccurate and misleading to state that the bacteria requirements of this Order must be met to achieve the swimmable use as defined under the Act.

The second to last sentence of this Finding states that discharge of a less than tertiary quality will result in the discharge of additional pollutants, which could degrade aquatic life uses of the receiving stream. This statement is speculative and prescriptive of tertiary treatment. All appropriate Waste Discharge Requirements (WDRs) needed to protect aquatic life are stipulated in this Tentative Permit. It is up to the County to define the treatment train needed to meet the WDRs. (Water Code §13360(a).)

Based on these considerations, this paragraph should be deleted or modified. If modified, all discussion pertaining to requirements of this Order needing to be met to protect the fishable use should be deleted entirely. As for the swimmable use, the modified text should clearly indicate that the Regional Board is imposing the specific coliform bacteria limitations because it has determined that a higher level of protection against illness (from swimming) is necessary, relative to the levels considered acceptable by the Basin Plan, DHS, and U.S. EPA.

**Response 16:** The Finding (No. 14) accurately characterizes the Clean Water Act with regard to fishable and swimmable conditions. Contrary to the comment, the permit does not prescribe a degree of treatment, since equivalent alternatives are acceptable.

A recreational survey of the receiving waters downstream of the SMD-1 discharge was not conducted. There is no information in the record and there were no site specific studies conducted which would allow one to conclude that "…people do not swim in foothill creeks during the late fall, winter, and early spring months when water temperatures are below 60F." Also, the Discharger's conclusion that "To do so would place an individual at immediate risk of hypothermia" is unsupported by any scientific documentation. Contrary to the Discharger's conclusions, the U.S. Geological Survey has published information (http://tahoe.usgs.gov/facts.html) showing that Lake Tahoe, which is heavily used for contact recreation, typically has surface water temperatures below 60 degrees F, except during August and September when surface water temperatures can rise to between 65 to 70 degrees F. It is not documented that people using such waters for recreation suffer immediate hypothermia as is stated as fact by the Discharger. Similar cold water conditions can be found in many foothill and mountain water bodies which are utilized for recreation.

The comment regarding the Basin Plan's coliform objective disregards that the objective was not developed for municipal wastewater discharges. The Basin Plan also prescribes the least stringent water quality objectives that will be applied to protect the beneficial uses of the receiving water. The Finding (No. 14) was written to address State Water Code Section 13241 requirements because a limitation more stringent than that prescribed in the Basin Plan is being applied.

It is the Regional Board's responsibility to assess and protect the beneficial uses of the receiving stream. When necessary, the Regional Board consults with other agencies for their technical expertise and advice. Regional Board staff have been criticized on many occasions for "blindly

following" the advise of DHS in matters concerning tertiary treatment to protect the beneficial uses of irrigated agriculture and contact recreation. In each case, the Regional Board has made a determination whether the advice of another agency is applicable and whether the advice should be followed. In this case, the Regional Board staff are recommending the Board adopt the DHS recommended alternative limitations for a limited period of time and that the actual beneficial uses warrant additional protection.

Based on a site specific inspection of the receiving water conditions downstream of the SMD-1 wastewater treatment plant, Regional Board staff have concluded that contact recreation is an existing beneficial use, year round.

The permit does not prescribe the treatment train necessary to protect aquatic life. The Finding suggests that a discharge under partial filtration conditions has not been fully characterized and additional pollutants, that were removed by tertiary treatment, could be present in the discharge with the lesser degree of treatment. The SIP required a minimum number of samples to characterize a wastewater discharge. Since the County utilizes tertiary treatment, most of the sampling events characterized the tertiary treated discharge. There were not 12 samples collected of the filter bypass conditions, which is what was required of major Dischargers to characterize a wastewater effluent. Failure to provide full tertiary treatment could allow additional, unregulated, pollutants into the receiving stream at toxic concentrations.

**Comment 17: Finding #14(d), p. 12 – Cost of Year-round Tertiary Treatment.** The SWRCB has determined that the Regional Board may impose bacteriological limits more stringent than limits based on the Current Basin Plan fecal coliform objective. (Order WQ 2002-0015 at p. 50.) Prior to doing so, however, the Regional Board must adequately address the Water Code section 13241 factors. When a Regional Board includes permit limits more stringent than limits based on an applicable numeric objective in the relevant basin plan, the Regional Board must address the section 13241 factors in the permit findings. These factors include, among others, economic considerations, environmental characteristics of the hydrographic unit under consideration, and the need for recycled water. Finding 14(b) purports to provide the required analysis of economic impacts. However, the finding is flawed in two respects. First, cost estimates presented in the finding are incorrect and based upon faulty assumptions. Secondly, the required analysis of the economic impact of requiring year-round tertiary treatment at SMD 1 goes beyond a simple estimate of the capital cost of the upgrades.

As to the first point, this Finding states that the cost of filtration upgrades to meet the tertiary treatment requirement "…*could cost significantly less than the $5,000,000 projected by the City* [sic]" The evidence provided to support this claim is in reference to the City of Auburn's facilities, which are not comparable to the SMD1 plant, as noted in previous comments submitted by the County. Comparison to the City of Auburn's filtration system for estimating expansion costs at SMD1 is inappropriate. The City of Auburn filtration system is a continuous backwash Dynasand filter unit. These types of filters are completely different in their design and

operation compared to those at the SMD1 facility. The initial costs are less but the operation and maintenance costs are higher. If the SMD1 facility were to contemplate all new filters, then these other types of filters would be considered on a life cycle cost basis. In this situation, however, existing filters are being expanded by adding additional units. It is not possible to add a Dynasand unit to the existing units at SMD1. The costs for the additional units are based on other installation of similar size and type filters as would need to be installed at SMD1.

This Finding states (top of p. 13): "*Reducing the I/I flows to an acceptable rate would eliminate the cost of additional filters*." As noted above, this statement is incorrect, as reduction in I/I will not reduce peak flows below 3.5 mgd. Moreover, the permit does not define "acceptable rates," reference any accepted engineering standards, nor provide evidence of how such rates could be achieved. Reducing the I/I flows to levels consistent with those of other foothill dischargers would not eliminate the cost of additional filters.

In the following paragraph, this Finding states: "*The loss of beneficial uses within downstream waters, without the tertiary treatment requirement, include prohibiting domestic uses, the irrigation of food crops and prohibiting public access for contact recreational purposes, would have a detrimental economic impact*." This statement is erroneous and ignores evidence in the record. The DHS prohibits use of effluent dominated waters for drinking water, *regardless* of level of treatment attained by the WWTP. In other words, these waters will not be approved for domestic drinking water use with or without the addition of tertiary treatment. Other domestic uses of downstream waters (e.g., irrigation of landscaping around the home, bathing, etc.) would be adequately protected by SMD1 effluent meeting the DHS recommendations for coliform bacteria, as stated in the July 15, 2003 letter to David Carlson. Similarly, irrigation and contact recreation uses would be more than adequately protected as stated in the DHS letter. The quoted sentence is inaccurate, unsupported, and inconsistent with the site-specific facts and expert technical recommendations made by DHS, and should be deleted.

With regard to the second point, simply citing the capital costs of installing filters to treat flows year round does not tell the full economic story. As noted in the cover letter, the County plans to eliminate the discharge to Rock Creek and connect this facility to the City of Lincoln's Regional Wastewater Treatment Plant and Reclamation Facility within the next 5 to 8 years. While some federal funds have been secured, use of these funds is predicated on the County's ability to provide the required 40% match, and all of the upstream partners are dependent upon each other for fiscal strength. SMD1's resources are limited. If the County expends its resources to construct additional treatment facilities to meet this Tentative Permit's requirements, the opportunity to utilize the federal funds for closing SMD1, the Auburn WWTP, and the Lake of the Pines WWTP may be lost. The regionalization effort is part of the full economic picture that must be assessed in determining whether the proposed requirements are appropriate. A cost that may be reasonable for a facility that proposes to continue its discharge into the foreseeable future is surely not reasonable for a facility that will cease discharge only a few years after the required upgrade is complete. The Regional Board must analyze and explain the economic consequences

of requiring the County to divert resources from the regional project for plant upgrades that will have an extremely short life span.

**Response 17:** The Regional Board has adequately addressed the Water Code section 13241 factors. The economic analysis is correct, reduction or elimination of excessive I/I (addressed in response to comment No. 13 above) will greatly reduce the costs estimated by the County for treatment of all peak wet weather flows.

The cost for the City of Auburn were utilized as an example of filters systems significantly less costly than those estimated by the County. There are no civil engineering constraints that all filters at a facility be the same design and construction, although operations may be simpler.

The County assesses that a 3.5 mgd peak flow rate cannot be achieved through I/I correction. As stated in response to comment No. 13 above, under the Clean Water Grant program U.S. EPA defined excessive I/I as that 2.75 higher than the average dry weather flow rate. For this facility, using the U.S. EPA peaking factor, any flows above (1.67 mgd x 2.75) 4.6 mgd would be "excessive". Effective I/I correction could achieve better than "excessive" levels of flow reductions. The cost for providing filtration of 4.6 mgd would be considerably less expensive than treating a peak flow of 8.4 mgd (the maximum flow rate presented by the County in the Report of waste Discharge).

The Discharger comments that "the DHS prohibits use of effluent dominated waters for drinking, regardless of level of treatment attained by the WWTP. The DHS has the authority to prohibit such use, is fully aware of the domestic uses downstream of the discharge, and has not, contrary to the comment, prohibited such use.

As is stated above, in response to comment No. 1, the Regional Board and Regional Board staff are fully supportive of closing the SMD-1 facility and diverting all flows to the City of Lincoln WWTP as a regional facility. The compliance time schedules in the proposed permit and C&D allow sufficient time to determine if regionalization is a realistic option. It should be noted that effective I/I reductions would significantly reduce any buy in costs to a regional facility.

**Comment 18: Finding 20 (p. 16) – Reasonable Potential Analysis for Hardness-dependent Criteria.** To be accurate, the first sentence of this finding should be revised as follows: "*Many of the pollutants ~~limited~~ in this Order have water quality criteria that are hardness and/or pH ~~dependant~~ dependent*."

The Finding also states that: "*The worst-case conditions are represented when the hardness of Rock Creek is 20 mg/l*." Because the lowest effluent hardness measured is 61 mg/l, 20 mg/l hardness in Rock Creek can only occur when no effluent is being discharged from SMD1. Under such conditions, there is no reasonable potential. Hence, use of 20 mg/l hardness (i.e., lowest Rock Creek hardness without any SMD1 effluent) for assessing reasonable potential for

constituents having water quality criteria that are hardness dependent is technically incorrect, and leads to identifying reasonable potential for copper, silver and zinc when in reality no such potential exists. Subsequent comments provide graphics showing the actual hardness that would occur in the receiving water under all possible ratios of effluent: receiving water flow.

**Response 18:** Many of the pollutants limited in this Order are hardness and/or pH dependant. Information submitted by Nevada Irrigation District (NID) confirms that the water supply to the receiving stream is from various watersheds, which may have significantly different hardnesses. Review of the hardness data for the wastewater discharge also shows extended periods with high or low hardness indicating the varying sources of water supply. The low hardness of the receiving stream and the wastewater discharge could occur at the same time resulting in critical hardness values. Information submitted as a supplement to the Report of Waste Discharge shows, in part, the following critical hardness and pH values:

| Effluent Hardness | R-1 Hardness | Effluent pH |
|---|---|---|
| **61 mg/l** | **20 mg/l** | **6.2 pH units** |

The toxicity to aquatic life varies from several metals varies with hardness. As hardness concentrations decrease, the toxicity of these metals to aquatic life increases. The CTR Criteria for these metals and the Ambient Criteria for the Protection of Freshwater Aquatic Life are hardness-dependent. The monitoring data submitted by the Discharger contained effluent hardness data that ranged between 61 and 340 mg/l. In addition, the Discharger submitted hardness data for Rock Creek, upstream of the effluent discharge point, which ranged between 20 and 260 mg/l. As stated in Section 1.2 of the SIP, "*When implementing the provisions of this Policy, the RWQCB shall ensure that criteria/objectives are properly adjusted for hardness or pH, using the hardness or pH values for the receiving water…*" The worst-case conditions are represented when the hardness of Rock Creek is 20 mg/l. When assessing reasonable potential to cause or contribute to an in-stream excursion above water quality criteria, the upstream hardness of Rock Creek represents worst-case conditions. However, according to technical advise from SWRCB staff, Effluent Limitations based on upstream hardness may be overprotective, while the protection provided by Effluent Limits based on the hardness of the effluent is not certain. According to guidance from the SWRCB, use of the downstream hardness to establish Effluent Limitations is protective of beneficial uses. Therefore, to protect the aquatic habitat beneficial uses of the receiving waters, new concentration-based final Effluent Limitations based on the CTR Criteria and the hardness of the combined flow of Rock Creek and the effluent (Monitoring Point R2), are included in this Order. While the worst case hardness may be utilized to determine reasonable potential, the Effluent Limitations vary with hardness by utilizing the hardness dependant equations.

**Comment 19:** **Finding 21 (p. 17) – Additional Bacteria Monitoring Requirements.** The Finding states: *"Based on DHS written opinions and recommendation…*," yet cites no letters from DHS where such recommendations were made for SMD1. The DHS analysis that was prepared specifically for SMD1 did not include recommendations for the additional bacteria

monitoring identified in this Finding. Additional monitoring of fecal coliform, *E. coli*, and Salmonella organisms is excessive and should be eliminated from this Order.

**Response 19:** DHS recommended, in a letter dated July 2003, that the proposed Order also contain additional weekly receiving water monitoring during bypass events, for Total Coliform Organisms, Fecal Coliform Organisms, *Escherichia coli*, and Salmonella Organisms. However, it is Regional Board's determination, regardless of the recommendation, that the sampling is necessary to determine the impacts of the discharge on the beneficial uses of the receiving stream.

**Comment 20: Finding 23 (p. 18) – Interim Effluent limitation for Coliform Bacteria. (**See previous comments (above) on the tertiary treatment requirement.) The DHS recommendation for SMD1, was not an interim recommendation until tertiary treatment facilities could be constructed; rather, it was a long-term recommendation for this facility in which DHS staff stated that year-round tertiary treatment of all flows is not necessary to protect public health. Consequently, the DHS recommendations should be reflected in the permit as final, not interim, effluent limits similar to the requirements in the City of Vacaville's Tentative Permit (issued the same day as this Tentative Permit). The same rationale applies to the interim, seasonal effluent turbidity limitations included in this Tentative Permit.

**Response 20:** As stated in numerous other responses to comments, the Vacaville and SMD-1 receiving streams have very little in common and the site specific conditions mandate the limitations in the individual NPDES permit to protect the beneficial uses of the receiving stream. The comment regarding the discharge limitation for coliform is also addressed extensively throughout this document.

**Comment 21: Finding 31 (p. 22) – Aluminum Effluent Limitation.** This Finding states: "*The elevated concentrations of aluminum in the wastewater discharge present a reasonable potential to cause aquatic toxicity*." However, no factual, evidentiary basis is provided to support this claim. Although measured by the total recoverable procedure, the U.S. EPA's aquatic life criteria are not intended to apply to aluminum silicate particles, as noted in its 1988 criteria document (EPA 440/5-86-008) and in a letter issued by Charles Delos of U.S. EPA Headquarters in Washington, D.C., specifically for SMD1, dated November 1, 2002.

In a subsequent letter issued by Mr. Delos on December 19, 2003, the following was stated.

> "*As has been previously pointed out, EPA's 1988 chronic aluminum criterion, 87 ug/L, is based on two tests, one with brook trout and one with striped bass, at low hardness (10 - 12 mg/L) and low pH (6.5 - 6.6 SU). This value is considered to be necessary for protecting waters having such low hardness and pH. However, this value is expected to be overly protective when applied to waters of moderate hardness and pH. Many such waters are known to exceed this value while fully attaining the goals of the Clean Water Act.*

*Based on data for a diversity of species tested at hardness in the range of 45 - 220 mg/L and pH in the range of 6.5 - 8.3, the 1988 document notes that the chronic criterion would be determined to be 750 ug/L.*"

Upon SMD1 effluent mixing with Rock Creek and downstream waters, hardness and pH conditions within the receiving waters would fall within the hardness range of 45 - 220 mg/L and pH range of 6.5 - 8.3 cited by Mr. Delos (above) where the U.S. EPA determined the applicable chronic criterion to be 750 ug/L. The technical information communicated by Mr. Delos of U.S. EPA in his November 1, 2002 and December 19, 2003 letters pertaining to aluminum was not used in a technically appropriate fashion by Regional Board staff that prepared this Tentative Permit. The only citing of these letters misstates the facts. On p. 23, paragraph #2 of the Finding, it is stated: "*In personal communications U.S. EPA water quality staff stated that a low hardness and pH,* as is observed from the Dischargers WWTP [emphasis added]*, the acute and chronic values recommended in the ambient criteria document for aluminum are necessary to protect aquatic life*." As shown above, Mr. Delos stated that the 87 ug/L chronic criterion is considered to be necessary for protecting waters having hardness of 10 - 12 mg/L *and* pH of 6.5 - 6.6. As stated in Finding #20 of this Order, the lowest effluent hardness recorded was 61 mg/L, not 10-12 mg/L as suggested by the above quote from this Finding. At the downstream hardness and pH levels typical of this site, application of the 750 ug/L criterion only would be appropriate.

In looking at the County's 13267 data set for aluminum at SMD1, one sees that high total aluminum values always occur during wet weather months, and never outside the precipitation season. For example the three highest values of 404, 274, and 256 ug/l occurred in March 2002, April 2002, and December 2002 (all wet season months). The highest value reported for the non-precipitation season of May through October was 61 ug/l. Hence, elevated aluminum levels in the effluent are not likely from industrial dischargers, but rather may be nontoxic clay particles (aluminum silicate) entering the system via I/I and, measured by the total recoverable procedure. Industrial inputs to the County's collection system would be expected to be more constant.

Based on the above, the County contends that no reasonable potential exists for SMD1 effluent aluminum concentrations to cause or significantly contribute to an excursion above the applicable U.S. EPA recommended ambient aluminum criterion for this site of 750 ug/L. Consequently, all aluminum effluent limitations should be deleted from the Tentative Permit and C&D.

**Response 21:** The comments are not consistent with Regional Board staff conversations with and written correspondence from U.S. EPA's Mr. Delos. It is Regional Board staff's interpretation that Mr. Delos recommends a limitation is necessary based on the site specific information for SMD-1. Mr. Delos does not represent U.S. EPA's official position, as does the promulgated Ambient Criteria for the Protection of Fresh water Aquatic Life. As detailed in the

permit Finding and Information Sheet, there is a reasonable potential for aluminum concentrations in the discharge from the SMD-1 wastewater treatment plant to cause an excursion of the Basin Plan narrative toxicity objective.

Aluminum can be toxic to aquatic organisms. Based on information submitted by the Discharger, Polyaluminum Hydroxychloride may be used as a coagulant before the wastewater flows to the gravity filters. The use of this coagulant increases the reasonable potential for the discharge of elevated concentrations of Aluminum to cause or contribute to an in-stream excursion above the Basin Plan prohibition against the discharge of toxic constituents in toxic concentrations. The low pH and the low hardness cited in the U.S. EPA ambient criteria document exist here and are applicable to the discharge. The elevated concentrations of aluminum in the wastewater discharge present a reasonable potential to cause aquatic toxicity. The Basin Plan contains a narrative objective prohibiting the discharge of toxic constituents that cause toxicity within the receiving stream. With respect to narrative objectives, the Regional Board must establish effluent limitations using one or more of three specified sources, including EPA's published water quality criteria. [(40 CFR 122.44(d)(1)(vi)(A), (B), or (C)]. In this case, it is appropriate to use U.S. EPA's water quality criteria. U.S. EPA's ambient water quality criteria for aluminum are applicable to the discharge. The wastewater effluent has been measured at a low pH of 6.8, and the receiving stream hardness has been measured as low as 20 mg/l, and therefore the criteria are directly applicable. EPA recommends application of the criteria as necessary to protect aquatic life absent a site-specific limitation. The Discharger has not proposed to conduct studies to develop a site specific limitation. The limitation for aluminum is reasonable and necessary to prevent aquatic toxicity from the wastewater discharge.

For Aluminum, U.S. EPA has developed Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life. The recommended Acute or Maximum Concentration (1-Hour Average) for Aluminum is 750 µg/l and the Chronic or Continuous Concentration (4-Day Average) is 87 µg/l, (both expressed as Total Recoverable Aluminum). U.S. EPA recommends that the ambient criteria are protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria. In personal communications with U.S. EPA water quality staff, Mr. Delos stated that at low hardness and pH, as is observed from the Dischargers WWTP, the acute and chronic values recommended in the ambient criteria document for aluminum are necessary to protect aquatic life. Mr. Delos (U.S. EPA) letter, dated 19 December 2003, recommended review of a State of Utah model where the 87 ug/l aluminum criterion is applied when the pH is less than 7.0 and the hardness is less than 50 mg/l, both of which apply here.

Effluent monitoring results submitted by the Discharger (see Table 1 of the Information Sheet) indicated the presence of Total Recoverable Aluminum, in twelve samples, at concentrations of 11.8, 12.8, 25.1, 27.2, 27.4, 28.7, 37.7, 59.0, 61.0, 256, 274, and 404 µg/l. The three highest concentrations were above the Chronic Criteria. New Effluent Limitations for Aluminum have been included in the proposed Order to protect the receiving stream aquatic life beneficial uses

based on U.S. EPA's recommended aquatic criteria, and have been established at the Ambient Water Quality Criteria for Aluminum.

**Comment 22:** **Finding 35 (p. 25) – PAE Effluent Limitation.** Neither the Basin Plan nor the CTR have objectives/criteria for regulating the sum of phthalate acid esters (PAEs). The Finding states that a lowest observed effect concentration (LOEC) was taken from U.S. EPA's ambient water quality criteria for the protection of freshwater aquatic life, yet no EPA document was cited, nor was an evidentiary basis provided to justify use of the 3 ug/L value permitted here as being necessary to achieve the narrative toxicity objective. The narrative toxicity objective requires that the Regional Board identify an evidentiary basis for implementing the narrative through a numeric effluent limitation, such as effects on a species present in the receiving water, toxicity tests or other stream-specific information.

**Response 22:** Permit Finding No. 35 specifies U.S. EPA's Ambient Criteria for the Protection of Fresh Water Aquatic Life (EPA 440/5-80-067, October 1980) was used to determine the appropriate limitation of total phthalates to protect the receiving water aquatic life beneficial use implementing the Basin Plan's narrative Toxicity Objective.

**Comment 23:** **Finding 36 (p. 26), Effluent Limitation (p. 50), & Information Sheet (p. 35) – Tributyltin.** The Tentative Permit concludes that an effluent limitation for tributyltin is needed, because the highest measured effluent concentration of 0.066 µg/L is greater than a U.S. EPA aquatic life chronic criterion of 0.063 µg/L. This criterion, however, has been superseded. The U.S. EPA criterion for tributyltin cited in the Tentative Permit, which was published as "draft" in 1997, was recently updated and finalized by the U.S EPA in *Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) – Final* (EPA 822-R-03-031, December 2003). The final criteria are (excerpt from EPA 822-R-03-031):

> **CRITERIA:**
>
> *Freshwater:*
>
> For TBT, the criterion to protect freshwater aquatic life from chronic toxic effects is 0.072 µg/L. This criterion is implemented as a four-day average, not to be exceeded more than once every three years on the average. The criterion to protect freshwater aquatic life from acute toxic effects is 0.46 µg/L. This criterion is implemented as a one-hour average, not to be exceeded more than once every three years on the average.

Therefore, the effluent limitations should be revised to reflect the final criteria cited above of 0.072 µg/L (chronic) and 0.46 µg/L (acute), rather than the draft 1997 criteria applied in the Tentative Permit.

**Response 23:** The comment is correct, the criteria changed during the period since the tentative permit was issued. Using the statistical methods from the technical support document for Water Quality Based Toxics Control the maximum projected effluent concentration presents a reasonable potential to exceed the new criteria. The permit Effluent Limitation for tributyltin will be revised to reflect the new criteria. The change is not considered significant.

**Comment 24: Finding 38c (p. 31) & Information Sheet (p. 44) – Copper.** Comparison of the effluent copper concentrations to the CTR criteria calculated solely on the receiving water's hardness does not represent a worst-case condition, but rather a fictional condition, because it does not accurately portray the SMD1's reasonable potential to cause receiving water criteria exceedances downstream of the discharge. The lowest measured receiving water hardness is 20 mg/L (as CaCO3), which only occurs in Rock Creek *upstream* of the SMD1 discharge – not downstream of the discharge. The lowest measured effluent hardness is 61 mg/L (as CaCO3). If the downstream receiving water hardness is 20 mg/L (as CaCO3), then the effluent component of the downstream flow is zero and, hence, the discharge could not contribute to exceedance of a water quality standard. In order for the effluent to have reasonable potential to cause exceedance of a water quality standard, effluent must be discharged, and if effluent is discharged, it not only contributes a certain concentration of copper, it contributes to the water hardness, which alters the CTR criteria. In the case of SMD1, the hardness and, hence, CTR criteria are increased by the discharge.

In general, the worst-case condition exists when the lowest hardness and highest copper concentration in the effluent and receiving water are combined. The following summarizes the highest copper concentrations in the effluent and Rock Creek upstream of the WWTP, and the lowest hardness concentrations.

| Location | Dissolved Copper (µg/L) | Total Recoverable Copper (µg/L) | Hardness (mg/L as $CaCO_3$) |
|---|---|---|---|
| **Effluent** | 2.57 | 2.93 | 61 |
| **Rock Creek** | 2.31 | 3.28 | 20 |

**Figure 1** shows the range of hardness and dissolved copper concentrations that would result in the receiving water downstream of the WWTP, depending on the percentage of the flow comprised of effluent. The percent effluent ranges from 0%, which means that the entire flow downstream of the discharge point is comprised of Rock Creek water, at a hardness of 20 mg/L (as CaCO3) and dissolved copper concentration of 2.31 µg/L, to 100% effluent, which means the entire flow is comprised of effluent at a hardness of 61 mg/L (as CaCO3) and dissolved copper concentration of 2.57 µg/L. As shown in Figure 1, as the percentage of effluent comprising flow

increases, so does the water hardness, copper concentration, and corresponding CTR criteria. However, for the entire range of possible dilutions at the worst-case initial concentrations identified above, the effluent does not contribute to an exceedance of the CTR criteria. Therefore, no effluent limitation is needed. Using the same approach with the total recoverable concentrations (using the default conversion factor of 0.96) yields the same conclusions.

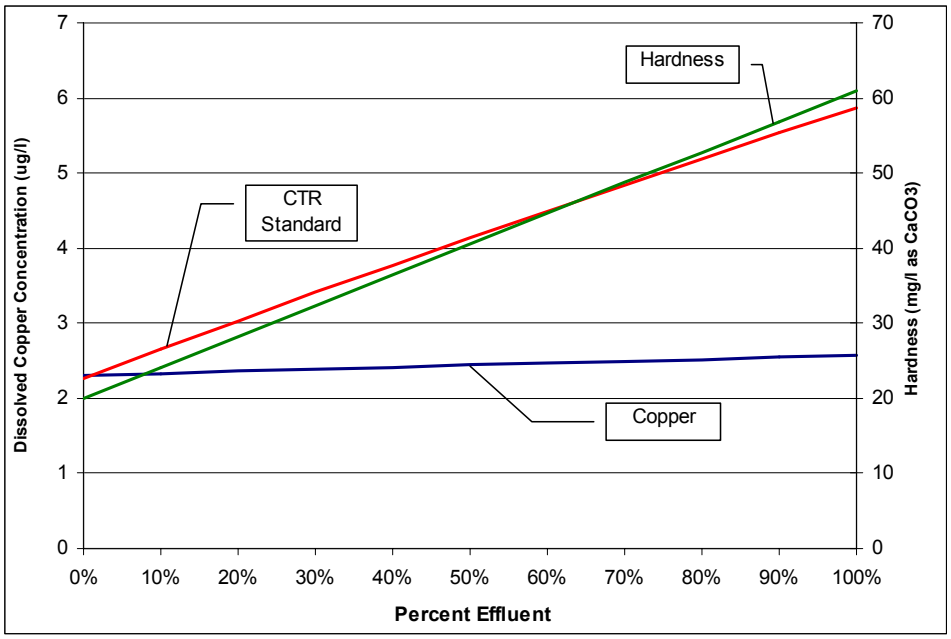


**Figure 1. Concentration of dissolved copper and total hardness (mg/L as $CaCO_3$) in Rock Creek downstream of the SMD No. 1 WWTP when the flow is comprised of 0% to 100% effluent, and the corresponding CTR hardness-based criteria for the chronic protection of aquatic life.**

Because the data show that reasonable potential for copper does not exist, the County requests that the copper effluent limitation, and associated compliance schedule, be removed from the Tentative Permit.

**Response 24:** See Response to Comments No. 6 and No. 18 above.

**Comment 25: Finding 38e (p. 34), Effluent Limitations (p. 52), & Information Sheet (p. 53) – Lead.** As with copper, comparison of the effluent lead concentrations to the CTR criteria calculated solely on the receiving water's hardness does not represent a worst-case condition, because it does not accurately portray the SMD1's reasonable potential to cause receiving water criteria exceedances downstream of the discharge. Applying the hardness values noted in the preceding discussion regarding copper, the effluent component of the downstream flow is zero and, hence, the discharge could not contribute to exceedance of a water quality standard. In order for the effluent to have reasonable potential to cause exceedance of a water quality

standard, effluent must be discharged, and if effluent is discharged, it not only contributes a certain concentration of lead, it contributes to the water hardness, which alters the CTR criteria. In the case of SMD1, the hardness and, hence, CTR criteria are increased by the discharge.

In general, the worst-case condition exists when the lowest hardness and highest lead concentration in the effluent and receiving water are combined. The following summarizes the highest lead concentrations in the effluent and Rock Creek upstream of the WWTP, and the lowest hardness concentrations.

| **Location** | **Dissolved Lead (µg/L)** | **Total Recoverable Lead (µg/L)** | **Hardness (mg/L as $CaCO_3$)** |
|---|---|---|---|
| **Effluent** | 1.51 | 1.49 | 61 |
| **Rock Creek** | 0.047 | 0.32 | 20 |

**Figure 2** shows the range of hardness and dissolved lead concentrations that would result in the receiving water downstream of the WWTP, depending on the percentage of the flow comprised of effluent. The percent effluent ranges from 0%, which means that the entire flow downstream of the discharge point is comprised of Rock Creek water, at a hardness of 20 mg/L (as CaCO3) and dissolved copper concentration of 0.047 µg/L, to 100% effluent, which means the entire flow is comprised of effluent at a hardness of 61 mg/L (as CaCO3) and dissolved lead concentration of 1.51 µg/L. As shown in Figure 2, there is potential for the lead criteria to be exceeded when the dilution is less than 1:1 (> 50% effluent). Therefore, the County is not contesting the need for an effluent limitation, but requests that the analysis to determine reasonable potential be consistent with the analyses for other trace metals with hardness-based CTR criteria.

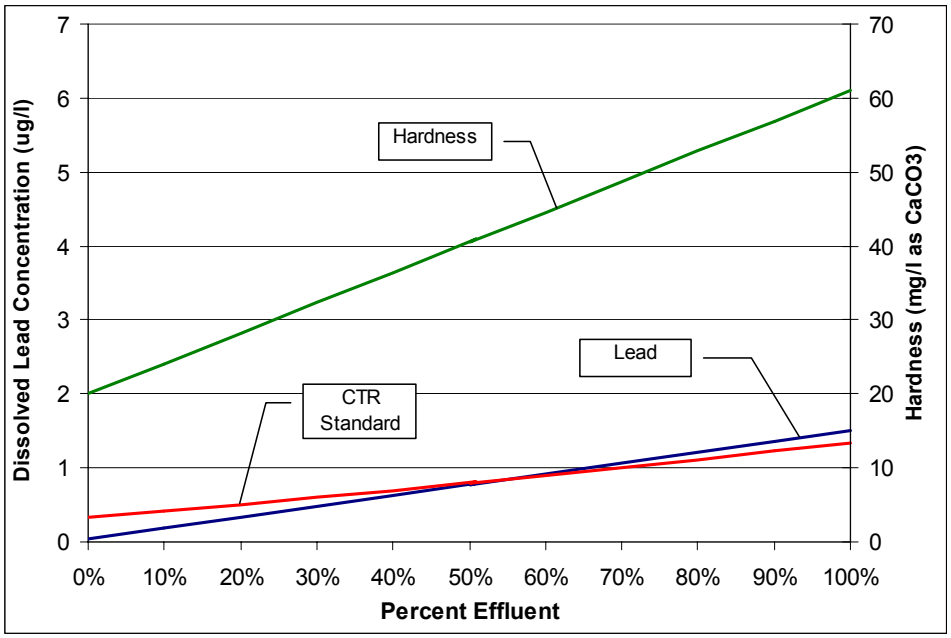


**Figure 2. Concentration of dissolved lead and total hardness (mg/L as $CaCO_3$) in Rock Creek downstream of the SMD No. 1 WWTP when the flow is comprised of 0% to 100% effluent, and the corresponding CTR hardness-based criteria for the chronic protection of aquatic life.**

**Response 25:** See Response to Comments No. 6 and No. 18 above.

**Comment 26: Finding 38f (p. 35), Effluent Limitations (p. 52), & Information Sheet (p. 56) – PCBs.** The Tentative Permit contains two 30-day average effluent limitations related to PCBs, one for the sum of PCBs of 0.00017 µg/L and one for the Aroclors 1016, 1121, and 1260 of 0.0114 µg/L. Compliance with the limitation for the sum of the PCBs would also result in compliance with the limitation for the Aroclors 1016, 1121, and 1260, because the limitation for the sum of the PCBs is lower. Therefore, the limitations for Arcoclors 1016, 1121, and 1260 are redundant and unnecessary.

It is unclear why two 30-day limitations were included, because per the SIP procedure, the average monthly effluent limitation (AMEL), applied as a 30-day average in the Tentative Permit, is to be the lower of the AMEL calculated from the aquatic life criterion and the AMEL calculated from the human health criterion. The Information Sheet states that the CTR criterion for chronic protection of aquatic life of 0.014 µg/L applies to each Aroclor, individually. This contradicts the CTR's footnote "u," which states: "*The aquatic life criteria apply to the sum of this set of seven Aroclors*." Because both the human health and aquatic life criteria are for the sum of PCBs and the 0.00017 µg/L limitation for the sum of PCBs is more restrictive than that

for the individual Aroclors 1016, 1121, and 1260, the County requests that the limitations included in the Tentative Permit for the individual Aroclors 1016, 1121, and 1260 be deleted.

**Response 26:** Regional Board staff agree with the comment, the proposed permit is incorrect and will be modified to remove the second Effluent Limitation for PCB Aroclors 1016,1221,1260. Since the Effluent Limitation for "PCBs" is more restrictive, and includes the sum of the other PCBs, this is not considered a significant change and will provide protection of the beneficial uses of the receiving stream.

**Comment 27: Finding 38g (p. 36) & Information Sheet (p. 59) – Silver.** This comment raises the same issue addressed in the comment on copper and lead. Comparison of the effluent silver concentrations to the CTR criteria calculated solely on the receiving water's hardness does not represent a worst case condition or accurately portray the SMD1's reasonable potential to cause receiving water criteria exceedances downstream of the discharge for the same reason cited for copper and lead. In the case of SMD1, the hardness and, hence, criteria are increased by the discharge.

In general, the worst-case condition exists when the lowest hardness and highest silver concentration in the effluent and receiving water are combined. The following summarizes the highest silver concentrations in the effluent and Rock Creek upstream of the WWTP, and the lowest hardness concentrations.

| Location | Dissolved Silver (µg/L) | Total Recoverable Silver (µg/L) | Hardness (mg/L as CaCO3) |
|---|---|---|---|
| **Effluent** | 0.110 | 0.431 | 61 |
| **Rock Creek** | 0.010 | 0.014 | 20 |

**Figure 3** shows the range of hardness and dissolved silver concentrations that would result in the receiving water downstream of the WWTP, depending the percentage of the flow comprised of effluent. The percent effluent ranges from 0%, which means that the entire flow downstream of the discharge point is comprised of Rock Creek water at a hardness of 20 mg/L and dissolved silver concentration of 0.010 µg/L, to 100% effluent, which means the entire flow is comprised of effluent at a hardness of 61 mg/L (as CaCO3) and dissolved silver concentration of 0.110 µg/L. As shown in Figure 3, as the percentage of effluent comprising flow increases, so does the silver concentration, water hardness, and corresponding CTR criteria. However, for the entire range of possible dilutions at the worst-case initial concentrations identified above, the dissolved silver concentration does not exceed the CTR criteria for the acute protection of aquatic life. Therefore, no effluent limitation for silver is needed. Using the same approach with the total

recoverable concentrations (using the default conversion factor of 0.85) yields the same conclusions.

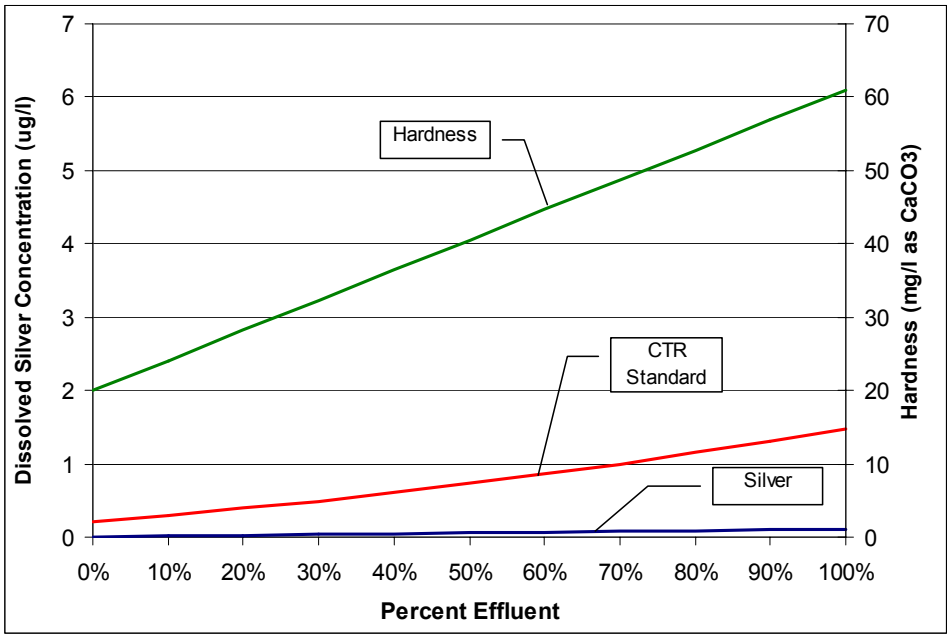


**Figure 3. Concentration of dissolved silver and total hardness (mg/L as $CaCO_3$) in Rock Creek downstream of the SMD No. 1 WWTP when the flow is comprised of 0% to 100% effluent, and the corresponding CTR hardness-based criteria for the chronic protection of aquatic life.**

Because the data show that reasonable potential for silver does not exist, the County requests that the silver effluent limitation, and associated compliance schedule, be removed from the Tentative Permit.

**Response 27:** See Response to Comments No. 6 and No. 18 above.

**Comment 28: Finding 38h (p. 37) & Information Sheet (p. 61) – Zinc.** This comment raises the same issue address in the comments on copper, lead and silver. Comparison of the effluent zinc concentrations to the CTR criteria calculated solely on the receiving water's hardness does not represent a worst case condition or accurately portray the SMD1's reasonable potential to cause receiving water criteria exceedances downstream of the discharge. In the case of SMD1, the hardness and, hence, criteria are increased by the discharge.

In general, the worst-case condition exists when the lowest hardness and highest zinc concentration in the effluent and receiving water are combined. The following summarizes the

highest zinc concentrations in the effluent and Rock Creek upstream of the WWTP, and the lowest hardness concentrations.

| Location | Dissolved Zinc (µg/L) | Total Recoverable Zinc (µg/L) | Hardness (mg/L as CaCO3) |
|---|---|---|---|
| **Effluent** | 72.2 | 34.5 | 61 |
| **Rock Creek** | 3.95 | 5.81 | 20 |

**Figure 4** shows the range of hardness and dissolved zinc concentrations that would result in the receiving water downstream of the WWTP, depending the percentage of the flow comprised of effluent. The percent effluent ranges from 0%, which means that the entire flow downstream of the discharge point is comprised of Rock Creek water at a hardness of 20 mg/L and dissolved zinc concentration of 3.95 µg/L, to 100% effluent, which means the entire flow is comprised of effluent at a hardness of 61 mg/L (as CaCO3) and dissolved zinc concentration of 72.2 µg/L. As shown in Figure 4, as the percentage of effluent comprising flow increases, so does the zinc concentration, water hardness, and corresponding CTR criteria. However, for the entire range of possible dilutions at the worst-case initial concentrations identified above, the dissolved zinc concentration does not exceed the CTR criteria for the chronic protection of aquatic life. Therefore, no effluent limitation for zinc is needed. Using the same approach with the total recoverable concentrations (using the default conversion factor of 0.986) yields the same conclusions.

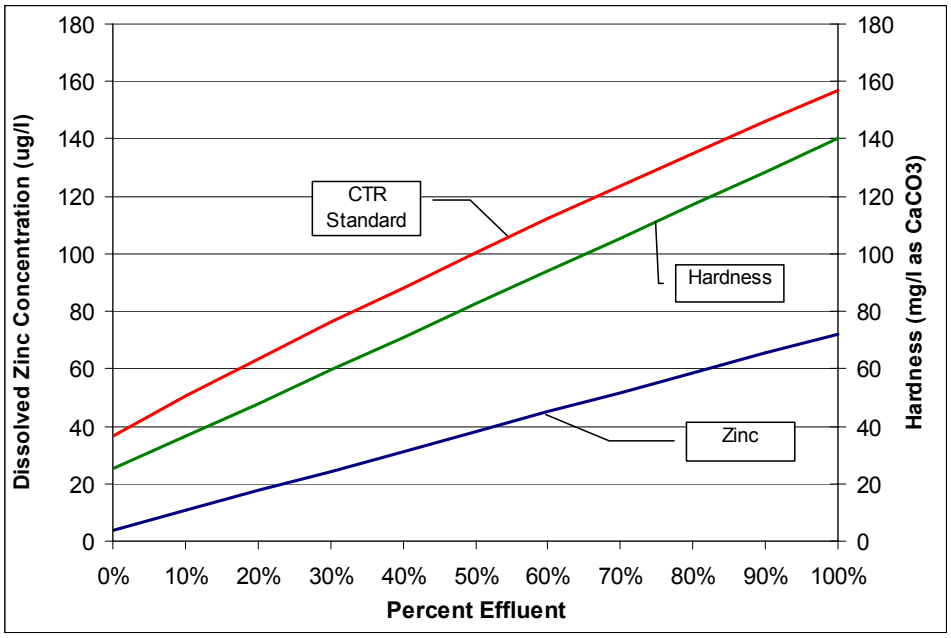


**Figure 4. Concentration of dissolved zinc and total hardness (mg/L as $CaCO_3$) in Rock Creek downstream of the SMD No. 1 WWTP when the flow is comprised of 0% to 100% effluent, and the corresponding CTR hardness-based criteria for the chronic protection of aquatic life.**

Because the data show that reasonable potential for zinc does not exist, the County requests that the zinc effluent limitation, and associated compliance schedule, be removed from the Tentative Permit.

**Response 28:** See Response to Comments No. 6 and No. 18 above.

**Comment 29: Finding 38i (p. 38) & Information Sheet (p. 64) – Chloroform.**

The chloroform effluent limitation of 1.1 µg/L is am improper use of the Basin Plan narrative toxicity objective, inconsistent with the Basin Plan objective for chemical constituents, and inconsistent with the U.S. EPA's current science on human health effects.

First, there is no evidence that a chloroform receiving water limitation is necessary for compliance with the narrative toxicity objective. People do not drink water directly, for a lifetime, from Rock Creek. In applying the narrative toxicity objective to protect aquatic life, for example, if a particular species was known to be sensitive to a particular toxicant at a given concentration, that concentration might be the basis for a numeric effluent limitation to represent the narrative toxicity objective. However, if that sensitive species were never present in the water body, that concentration would be irrelevant. The same is true here. There is no exposure

to the receptor — humans — and, therefore, no toxicity. There are no findings or evidence that it is necessary to develop an effluent limitation for chloroform.

Second, protection of human health from chloroform toxicity is already numerically addressed via the DHS MCL for total trihalomethanes, which is applied through the "Chemical Constituents" objective of the Basin Plan, which states: *"At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449."* The U.S. EPA's MCL for total trihalomethanes (THMs) is 80 µg/L, which supercedes the DHS MCL of 100 µg/L, because it is more stringent. Because chloroform is a THM component, for which the Basin Plan contains, by reference to the DHS MCLs, a numeric objective, the derivation of another numeric objective for chloroform based on OEHHA data is not necessary or appropriate.

Third, the U.S EPA recently published draft ambient water quality criteria for chloroform for the protection of human health in *Ambient Water Quality Criterion for the Protection of Human Health: Chloroform - Revised Draft* (EPA-822-R-04-002, December 2003). The draft criteria are (excerpt below):

**7.3 AWQC SUMMARY**

Based on the equations and input parameters described above, the AWQC values for chloroform are as follows:

| AWQC Type | AWQC Value (a) |
|---|---|
| Ingestion of drinking water plus ingestion of organisms | 68 µg/L |
| Ingestion of organisms only | 2,400 µg/L |

(a) AWQC values are shown to two significant figures



The highest reported effluent chloroform concentration of 11 µg/L is less than the proposed U.S. EPA criteria, and the sum of the THMs were below the U.S. EPA MCL of 80 µg/L. In looking at the statistical variability of the data, there is no reasonable potential the effluent concentrations would be greater than either the U.S EPA MCL or the proposed ambient water quality criteria; therefore, an effluent limitation for chloroform is not needed. The County requests that the chloroform effluent limitation be deleted from both the Tentative Permit and the C&D.

**Response 29:** There is evidence in the record that the receiving stream is used for domestic and municipal purposed. Municipal and Domestic are also applicable designated beneficial uses of the receiving stream. The information contained in the Findings and Information Sheet finding reasonable potential for chloroform to exceed the level necessary to protect the domestic and municipal beneficial uses of the receiving stream is correct as presented.

**Comment 30: Finding 43 (p. 44) & Information Sheet (p. 70) – Constituents Analyzed Above Criteria.** There are no criteria for phosphorus (see p. 72 of Information Sheet). Therefore, phosphorus should be deleted from the list of "Constituents Analyzed Above Criteria."

**Response 30:** Phosphorus is a nutrient, which can cause and contribute to biostimulation in the receiving stream. The Basin Plan requires that waters shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses. Municipal wastewaters contain phosphorus. U.S. EPA is in the process of developing regulatory standards for nutrients, including phosphorus. It is reasonable to sample for phosphorus to determine compliance with the Basin Plan objective for biostimulatory substances. The Finding, however, should not state that phosphorus exceeded a standard, and has been removed from the list as a late revision.

**Comment 31: Finding 45 (p. 45)—Collection System** This finding defines a sanitary sewer overflow as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. This definition should be modified to define an overflow as a discharge to ground water or surface water. A spill that is contained on land or otherwise does not reach waters of the State should not be subject to this Order. In addition, the Finding states: "*Sanitary sewer overflows are prohibited by this Order,*" without qualification. This is an unattainable standard. Even the best managed and operated collection system cannot prevent all overflows under all circumstances, as acknowledged by U.S. EPA in the preamble to its draft collection system regulations. Instead, the Order should prohibit all "preventable" overflows. "Preventable" overflows would include wet weather overflows during a design storm period and most dry weather overflows (with exceptions for vandalism, Acts of God (e.g., earthquake causing pipe breaks), or similar extraordinary events).

**Response 31:** Contrary to the comment, the discharge of raw sewage to land is unacceptable. NPDES permits in California must also comply with the Porter Cologne Water Quality Control Act. The proposed NPDES permit is correct in prohibiting the discharge of raw sewage to surface waters, groundwater and land. Enforcement of the prohibition against sanitary sewer overflows is a determination properly made by the Regional Board. The proposed amendments to the permit language would remove the authority from the Regional Board to determine compliance with the permit on a case-by-case basis.

**Comment 32: Permit p. 57, Provision 7 – Compliance Schedule for an Industrial Pretreatment Program:** This provision sets a date of April 30, 2005 for the submittal of an Industrial Pretreatment Program. On December 9, 2003, Placer County Sewer Maintenance District No. 1 received Administrative Order CWA –307-9-04-012 from U.S. EPA also ordering the district to implement a pretreatment program and also requiring a number of submittal dates which are different than noted in this provision. A copy was also sent to the Regional Board office. We have recently requested that U.S. EPA modify those dates. In order to avoid duplicative or conflicting requirements, the County requests that the specific date referenced in this provision be removed and reference made to the Federal deadlines.

**Response 32:** As cited in the permit, Federal Regulations mandate the permit include a compliance schedule no longer than one-year. If the Discharger would like to submit the program earlier than required, the Regional Board would not object.

**Comment 33: Permit p. 59, Provision 9(b) – Chlorine Contact Basin Design Parameters.** The Regional Board is to establish NPDES Waste Discharge Requirements to be met by the Discharger, but is not to prescribe specific treatment parameters, facilities, or operations to achieve those WDRs. (Water Code §13360(a).) This Provision prescribes treatment parameters/facility design. As such, it is inappropriate and should be removed from the Tentative Permit.

**Response 33:** The requirement for the submittal of information is not a treatment system design requirement. The DHS recommends a minimum modal contact for the effective "kill" of pathogens. The information will be compared to the DHS recommendation and appropriate action determined at that time.

**Comment 34: Permit p. 59, Provision 9(c) – Schedule for I/I Reduction Program.** As stated previously in these comments, the County currently has an I/I corrective action program and intends to continue working to reduce I/I annually. However, this Provision states: "*The Dischargers wastewater collection system is subject to excessive infiltration and inflow (I/I) into the collection system that have resulted in the Discharger requesting relaxed discharge standards during periods of high flow and cold temperatures*." This statement is incorrect. The County did not request "relaxed" coliform effluent limitations because of excessive I/I. Rather, the County requests appropriate coliform effluent limitations during periods of high flow and cold temperatures, because full Title 22 equivalent treatment is not necessary during those periods to provide public health protection acceptable to DHS. This was confirmed by the DHS letter issued to David Carlson on July 15, 2003, in which DHS staff specifically addressed SMD1 coliform bacteria limitations necessary to protect public health. Moreover, nowhere in this Tentative Permit is "excessive I/I" defined, or is the I/I experienced for the SMD1 facility compared to an engineering standard or the performance of other foothill dischargers. The County requests that all statements within this Tentative Permit indicating that the County requested "relaxed" coliform effluent limitations because of excessive I/I be deleted.

**Response 34:** As properly detailed in the permit Findings, the Information Sheet and in this Response to Comments, there is excessive I/I at the SMD-1 facility and without the excessive I/I the County would not have had a need to request relaxed filtration limitations. The cited language is correct as written and has not been modified as requested.

**Comment 35: Permit p. 60, Provision 10 – Compliance Schedule for Effluent Limitations for NTR/CTR Constituents.** The comments provided above show that effluent limitations are not warranted for:

- copper;
- silver;
- zinc; and
- Arcoclors 1016, 1121, and 1260.

These findings also affect the study required under this Provision to assess the sources of these constituents. The County requests that this Provision be appropriately modified, based on the re-assessments of reasonable potential and "double limitations" issued for PCBs discussed herein.

**Response 35:** The re-assessment of the discharge limitations for the cited constituents resulted in only one modification of the proposed orders. Regional Board staff agree with the comment, the proposed permit is incorrect and will be modified to remove the second Effluent Limitation for PCB Arcoclors 1016,1221,1260. Since the Effluent Limitation for "PCBs" is more restrictive, than for PCB Arcoclors, and includes the sum of the other PCBs, this is not considered a significant change and will provide protection of the beneficial uses of the receiving stream. The compliance schedules are necessary since the reasonable potential analysis shows the WWTP is not currently capable of meeting the effluent limitations.

**Comment 36: p. 2, Sampling Frequency, Ammonia, Nitrate, Nitrite.** The Water Code requires that the burden, including costs, of monitoring requirements bear a reasonable relationship to the need for the information and the benefits to be obtained from the reports. (Water Code §13267(b)(1)). The Ammonia, Nitrate, and Nitrite sampling frequencies have been set at *daily*, which represents a substantially higher frequency that required in recent permits issued by Region 5 for the City of Vacaville, El Dorado Irrigation District, Nevada City, and Lincoln. In these other permits, the monitoring frequencies for these constituents were set at *weekly or monthly*. Furthermore, the sampling is a measurement of the efficiency of the plant in removing those constituents and lab results take up to two weeks to be returned from out side labs. Because of that time lag, the monitoring cannot be used for process control. It would also be difficult for our on-site lab to be certified for performing these tests. EPA protocol for Ammonia and Nitrate require equipment and chemicals that small labs cannot efficiently provide. The County requests that the sampling frequency for Ammonia, Nitrate, and Nitrite be set at *weekly* to be consistent with other permits issued by your office.

Permit discussions held with Regional Board staff on April 16, 2003 indicated that the higher frequency was because of past plant performance with regard to these constituents, and the uncertainty regarding the ability of newly constructed facilities to comply with limitations for these constituents. The County requested in this meeting, and reiterates the request here, that if a higher frequency of monitoring is imposed by Regional Board staff, that it apply only as long as is necessary to demonstrate that current facilities and operations can achieve compliance. As stated above, the County sends samples to contract labs for ammonia, nitrate and nitrite analyses. Hence, daily monitoring would not be possible because contract labs are typically not open to receive samples on weekends. In the event that Regional Board staff imposes more frequent monitoring requirements for these constituents than is typically permitted, the County proposes it be one year of monitoring at a frequency of 5 days per week (Monday-Friday), with monitoring frequency defaulting to once each week as soon as possible thereafter, upon demonstrating acceptable performance of new facilities.

**Response 36:** It has taken the Discharger years to operate the WWTP in a nitrification mode. Nitrification and denitrification are critical to reduce or remove ammonia and nitrate concentrations to an acceptable level to protect the beneficial uses of the receiving stream. Failure to operate the wastewater treatment system in a nitrification/denitrification mode will result in excessive ammonia and nitrate being discharged to the receiving stream, thereby degrading the beneficial use. Wastewater treatment systems are not always stable with regard to operation in a nitrification/denitrification mode. It is Regional Board staff's best professional judgment that the additional sampling, contained in the MRP, is necessary to assure compliance with the discharge limitations in the proposed order.

**Comment 37: p. 2, Sampling Frequency, Temperature, Settleable Solids, EC, pH and Total Coliform.** The sampling frequency for Total Coliform has been proposed at daily. Again, that is inconsistent with recent permits issued in the foothill area. Also, daily monitoring would not be possible because contract labs are typically not open to receive samples on weekends. We request that the frequency be set at 5 days per week (Monday-Friday) as was done in permits recently issued from the Central Valley office for similar sized facilities (e.g. EID's Deer Creek WWTP).

**Response 37:** Temperature, EC and pH are generally field parameters which are not conducted at contract laboratories. Temperature cannot be conducted at a contract laboratory. It is also our understanding that SMD-1 conducts all of these analyses on site in their laboratory which is state certified. It is Regional Board staff's best professional judgment that the additional sampling, cited in the comment, is necessary to assure compliance with the discharge limitations in the proposed order. The Discharger has proposed to discharge partially filtered water during high storm events when temperature is below 60 degrees F. In order to accurately assess the period of discharge, temperature and coliform organisms must be measured daily. EC and pH are

excellent indicator parameters and will aid in determining if there are other pollutants of concern.

**Comment 38: p. 4 – Table 3: Discharge Turbidity.** The third item in this table requires continuous monitoring for effluent turbidity at the outfall when flows >3.5 mgd, and 7-day median temperature of the receiving water is <60F (i.e., during the winter high-flow conditions). The permit, p. 51, B3 sets no effluent turbidity requirement when flow is greater than 3.5 mgd and the 7-day median receiving water temperature is less than 60F. Therefore, the County requests that the requirement for continuous monitoring of effluent outfall turbidity under these conditions, stated on p. 4 of the Monitoring and Reporting Program, be deleted.

**Response 38:** The Discharger has requested and has been granted a lesser degree of treatment, for at least a limited term under the proposed order. The sampling has been included to determine the impacts of the lesser degree of treatment on the beneficial uses of the receiving stream and to determine if the discharge causes violation of receiving water limitations.

**Comment 39: p. 4 – Sampling Frequency for Dissolved Oxygen, pH, Turbidity, and Temperature.** The sampling frequency for these constituents has been changed from twice weekly to daily and appears to be patterned around much larger wastewater treatment plants. In recent permits issued for Roseville, Deer Creek, the Casino and Nevada City, the frequency was set at weekly. Accordingly, we request that the monitoring frequency for these constituents be set at weekly or twice weekly.

**Response 39:** It is Regional Board staff's best professional judgment that the additional sampling, cited in the comment, is necessary to assure compliance with the discharge limitations in the proposed order. All of the cited wastewater treatment plants have full time tertiary treatment, without bypassing filtration. Turbidity is required on a continuous basis to assure proper filter operation at all of the cited facilities. Please see the response to comment No. 37 above.

**Comment 40: P. 5 – Monitoring of Fecal Coliform in the Receiving Waters.** The NPDES Permit contains effluent limitations for total coliform organisms that are sufficiently low that compliance with the effluent limitation guarantees that the discharge could not cause the Basin Plan fecal coliform objective to be exceeded. Therefore, the County requests that compliance with the receiving water fecal coliform, limitation be determined via total coliform organisms data collected on the effluent, and that monitoring for fecal coliform organisms at the receiving water locations be removed from the receiving water section of this Monitoring and Reporting Program. This comment was made on the previous Tentative Permit for both fecal coliform and ammonia. In this Tentative Permit, Regional Board staff removed the redundant receiving water monitoring requirement for ammonia, but did not do so for fecal coliform. Hence, the County reiterates the request to remove the redundant and unnecessary monitoring requirement specified

here for receiving water fecal coliform bacteria both in the dry weather flow and high winter flow conditions.

**Response 40:** It is Regional Board staff's best professional judgment that the additional sampling, cited in the comment, is necessary to assure compliance with the discharge limitations in the proposed order. The Regional Board is required to include sampling in NPDES permits for limited constituents. The receiving water sampling has been minimized and is only required weekly. This sampling will also assist in evaluating the assimilative capacity of the receiving stream for pathogens, especially during periods when the County is proposing to partially bypass filtration.

**Comment 41: P. 4-5 – Additional Receiving Water Monitoring when Bypassing Filters When Effluent Flows >3.5 mgd and Creek Temperature <60F.** On July 15, 2003, DHS staff issued a letter to Regional Board staff in which it made specific recommendations pertaining to SMD1 waste discharge requirements necessary to protect public health. Nowhere in this letter, or in the April 2003 technical meetings among County, Regional Board, and DHS staff where the issue was evaluated, did DHS indicate that daily receiving water monitoring of total coliform organisms, *E. coli*, and Salmonella organisms would be appropriate or necessary under such conditions at this site. Second, nowhere in the Tentative Permit, Monitoring and Reporting Program, for Information Sheet do Regional Board staff provide an adequate technical or regulatory basis for such monitoring. Third, the City of Vacaville's Tentative Permit, issued by Region 5 on the same day this Tentative Permit was issued, also allows for filter bypass at the EWWTP during the November 1 through April 30 period, annually. However, this permit does not require additional daily receiving water monitoring, when filter bypassing occurs, for total coliform organisms, *E. coli*, and Salmonella organisms, as required here. Because this additional monitoring is not necessary, the County requests that this entire monitoring requirement be eliminated from this Monitoring and Reporting Program.

**Response 41:** NPDES permit are written to protect site-specific beneficial uses. The Vacaville receiving water conditions are significantly different from SMD-1s. It is Regional Board staff's best professional judgment that the additional sampling, cited in the comment, is necessary to assure compliance with the discharge limitations in the proposed order and to determine the impacts of discharging under less than full filtration conditions. Failure to provide full filtration of the effluent will result in additional pathogens being discharged to the receiving stream. The discharge of coliform organisms, *E. coli*, and Salmonella organisms have the potential to cause illness in people utilizing the receiving stream during these discharge conditions. The Discharger is required to assess the impacts of the wastewater discharge on the receiving water and the corresponding beneficial uses.

**Comment 42: P. 5 – Three Species Bioassay Testing.** This requirement is included in this Program to assess whether discharges are causing, or have reasonable potential to cause, toxicity in the receiving waters. This cannot be done by running the three-species tests on undiluted

effluent only. Other permits issued by Region 5 for EDW Dischargers (e.g., EID's Deer Creek and El Dorado Hills WWTPs, Placerville's Hangtown Creek WWTP, Vacaville's EWWTP) provide that serial dilution testing will be conducted according to the following Table:

*Dilution Series*:

| | Dilutions (%) | | | | | Controls | |
|---|---|---|---|---|---|---|---|
| | 100 | 75 | 50 | 25 | 12.5 | | |
| | | | | | | Receiving Water | Lab Water |
| % WWTP Effluent | 100 | 75 | 50 | 25 | 12.5 | 0 | 0 |
| % Dilution Water* | 0 | 25 | 50 | 75 | 87.5 | 100 | 0 |
| % Lab Water | 0 | 0 | 0 | 0 | 0 | 0 | 100 |

* Dilution water shall be receiving water from Rock Creek and Dry Creek mixed at a ratio equal to the measured flow ratio of these creeks at the time the bioassay samples are conducted. The dilution series may be altered upon approval of Board staff.

The County requests that the Dilution Series specified on p. 5 of the Monitoring and Reporting Program be modified to include the above table and footnote, thereby making it consistent with other NPDES permits issued by Region 5 to EDW dischargers, and the intent for conducting the tests.

**Response 42:** The receiving stream has been assessed as being ephemeral. The Discharger will not be given credit for dilution, although the site-specific conditions will be considered in evaluating compliance. The Discharger has the ability to conduct additional sampling and may analyze the discharge and the receiving stream for dilution ratios. Regional Board staff would recommend, however that the cited dilution ratios not be used since they are unlikely relevant to the discharge/receiving stream actual dilution ratios. We would recommend that any bioassay dilution series bracket the actual dilution at the specific time of discharge. As a reminder, any sampling for a regulated parameter at a point of compliance must be submitted to the Regional Board.

**Comment 43:** All comments made on the Tentative Permit and Monitoring and Reporting Program that directly relate to text provided in the Fact Sheet serve as like comments on the Fact Sheet; therefore, such comments will not be repeated here.

**Response 43:** Comment noted. All responses to comments made on the Tentative Permit and Monitoring and Reporting Program that directly relate to text provided in the Fact Sheet serve as like responses to comments on the Fact Sheet.